2006 CATS Interpretive Guide

Detailed Information on Using Your Score Reports

KENTUCKY DEPARTMENT OF EDUCATION
Gene Wilhoit, Commissioner

(Version 4.1)

Kentucky
UNBRIDLED SPIRIT

Table of Contents

The Commonwealth Accountability Testing System 1
CATS Accountability Growth Chart and Overview 2
Kentucky Core Content Test (KCCT) 4
Kentucky Performance Report (KPR) Overview 8
KPR Reports – Detailed Explanations 11
- Cover Page and Introduction 11
- Accountability Cycle 2006 13
- CATS Accountability Model 13
- Accountability Trend 18
- Content Area Index Trends 21
- Academic Index Comparisons 22
- Content Area Reports 23
  - Trend Data: Number and Percent 23
  - Content Area Sub-Domain 25
  - Core Content 27
  - Questionnaire Data 30
  - Disaggregation, Performance Level Percents – Content Area 31
  - Disaggregation Index Trends 32
  - Mean Scale Score/Standard Deviation 33
  - Scale Score Data Disaggregation 35
- Norm-Referenced Test (NRT) 38
- NRT Data Disaggregation 39
- Individual Reports – Explanations 40
  - Individual Student Report 40
  - Student Listing 42
  - Performance Levels 43
  - Item Level Report – Revised for 2006 Reporting 46

Data Analyses 47
- Kentucky's Accountability Index 49

Appendix A 55
- Terms and Explanations 55

Appendix B 59
- Important Thoughts and Questions based on Current KPR 59

Appendix C 65
- Scale Score Ranges 65

Appendix D 67
- 2006 CATS Weights for Elementary, Middle and High Schools 67

NOTES:

The Commonwealth Accountability Testing System

Accountability Index:

- KCCT
- NRT
- Writing Portfolios
- Non-Academic Indicators
- Alternate Portfolio

The purpose of the Commonwealth Accountability Testing System (CATS) is to encourage and enable educators in each public school to increase the academic achievement of their students. Success in accomplishing this goal is measured by the Kentucky Accountability Index, a numeric composite reflecting student performance with reference to Kentucky Performance Standards -- Novice, Apprentice, Proficient and Distinguished -- the nationally norm-referenced test, and nonacademic indicators. This index identifying schools as successful or in need of assistance is calculated using percentages of students scoring at performance levels (N,A,P, D) for each of the content areas: reading, mathematics, science, social studies, writing, arts & humanities and practical living/ vocational studies.

Resources for Kentucky Educators:

KPR:
- Accountability Index
- KCCT
- NRT

2006 CATS Interpretive Guide:
- For the KPR
- Background
- User Guidance

Student Data Tool

Web Resources

In addition to the CATS Interpretive Guide, and the KPR, the ***Student Data Tool***, a database program provided to schools that contains a confidential file reflecting student-level assessment data, allows schools to conduct supplementary analyses. More assessment resources are provided on the KDE website: http://www.education.ky.gov main page; click on 'Testing and Reporting' in the left-hand column.

These resources afford Kentucky educators the opportunity to harness the considerable power of their assessment data to aid schools in making decisions to improve their schools and make progress toward the goal of Proficiency by 2014.

CATS Accountability Growth Chart and Overview

The growth chart, located on page 3 of the KPR, provides a general explanation of the Commonwealth Accountability Testing System. Each school and district has a customized growth chart based on its own starting point or baseline and a set of growth targets toward the goal of 100 for the Accountability Index.

A summary of some important points about the growth chart and several other features of the Accountability Model follows:

- The Goal Line represents the point above which schools are identified as successful schools. The goal line begins in 2000 at the baseline[1] and ends at 100 in 2014.
- The Assistance Line represents the point below which a school becomes eligible for assistance from the state. The Assistance Line begins in 2002 at the baseline and ends in 2014 at 80.
- Both of the above lines (Goal and Assistance Lines) have a standard error associated with the line that ranges from approximately 0.5 to 3.0 depending upon school size and level (elementary, middle and high school).
- Schools between the Goal Line and the Assistance Line are considered Progressing.
- For a school to be successful, it must also meet the Novice reduction and dropout criteria. Schools must reduce their percent of Novices on a schedule so that by 2014, the school has 5% or less of its students scoring as Novice. With regard to the dropout criteria, high schools must have a dropout rate less than or equal to 5.3%, or reduce their percent dropout by 0.5%, but still have a dropout rate less than or equal to 6.0%.
- The CATS Accountability Model has provisions for establishing a set of one-time recognition points (55, 66, 77, 88, and 100). The top 5% of schools which have met the 4th recognition point of 88, and drop-out and novice reduction requirements are considered "Pace Setter" schools.
- Two years of data are combined to form both the baseline and the growth indices. Combining two years of data addresses some of the stability issues related to estimating the achievement for small schools.
- Results from students who use accommodations or modifications are included in accountability calculations in the same manner as results from students who do not use accommodations or modifications.
- Schools that do not include accountability grades are "feeder schools" and are held accountable through the performance judgment assigned to the schools into which they feed.
- The four non-academic components (i.e., attendance, retention, dropout and successful transition to adult life) are each put onto a 0 to 100 scale. More specifically, the values for attendance and successful transition to adult life are the actual percentages reported, whereas the values entered into calculations for retention and dropout are 100 minus the actual percentage calculated.

[1] For reconfigured schools, the baseline may be established in later years as provided for in 703 KAR 5:020.

- The Alternate Portfolio is Kentucky's means of assessing the instruction provided to students with significant disabilities. Alternate Portfolios are scored using the same performance levels as the content area tests (i.e., NAPD). An Alternate Portfolio is submitted once at the elementary level, once at the middle school level, and once at the high school level. *At each of these levels, a student's performance level (N, A, P or D) weight contributes to all seven content areas.* For example, if an Alternate Portfolio student receives a Proficient, for calculation purposes, it is as if the student received a Proficient (weight of 100) in all content areas of the assessment at the grade level. In this way, Alternate Portfolio students contribute the same amount to accountability as a general education student, although that contribution happens within one calendar year and not across several years (e.g., fourth and fifth grade or seventh and eighth grade).

Measures and Indicators

Both academic content-based and non-academic measures are used in CATS. These measures include custom, criterion-referenced Kentucky Core Content Tests (KCCT) in reading, mathematics, science, social studies, arts and humanities, practical living/vocational studies and writing, as well as a nationally norm-referenced test in mathematics and reading.

Non-academic measures include attendance rate, retention rate, dropout rate and transition-to-adult-life. Transition-to-adult-life data is collected in the fall of each year via a short survey completed by school personnel. This includes the number of graduates planning to enter the work force, the military, a college or a vocational/ technical school.

These multiple measures provide a "snapshot" of schools and communicate to schools strengths and weaknesses in order to allocate resources and analyze instructional programs. Each of the measures is combined into a composite to obtain a school's Accountability Index. The CATS goal for every school in the state is Proficiency as defined by the Kentucky Board of Education. The goal of Proficiency translates into a school Accountability Index value of 100. The State goal is for each school to achieve an accountability index of 100 by 2014.

Kentucky Core Content Test (KCCT)

The majority of the school's accountability index comes from the results of the KCCT.

Kentucky teachers (Content Advisory Committees) assist in the development of the open-response items and the multiple-choice items for the KCCT.

The measurement that contributes most to the calculation of a school's accountability index is the KCCT. The Table 1 summarizes the grades and content areas tested by the KCCT, including the number of open-response and multiple-choice questions asked on each of six (6) forms of the KCCT with 12 forms each for arts & humanities and practical living/vocational studies.

Reading, math, science, social studies:

6 forms x 6 items = 36 OR
6 forms x 24 items = 144 MC

Arts & Humanities, Practical Living/ Vocational Studies:

12 forms x 2 items = 24 OR
12 forms x 8 items = 96 MC

At all grade levels where reading, mathematics, science and social studies are tested, seven open-response and twenty-eight multiple-choice questions are given to each student. One open-response and four multiple-choice questions are pre-test items and are not included in student scores or school accountability calculations.

At the grade levels where arts & humanities, and practical living/vocational studies are administered, three open-response and twelve multiple-choice questions are given to each student. One open-response and four multiple-choice questions are pretest questions and are not included in student scores or school accountability calculations.

Since there are six forms of the test and the forms generally do not overlap[2], this means that for accountability purposes there are 36 open-response items and 144 multiple-choice items administered per grade level/content area for reading, mathematics, science and social studies. For arts & humanities and practical living/vocational studies, there are 24 open-response items and 96 multiple-choice items administered per grade level/content area because there are 12 non-overlapping forms of the test. Multiple-choice and open response scores in each content area are included in school accountability calculations. Finally, students at grades 4, 7 and 12 select and respond to one of two on-demand writing prompts offered during the test.

[2] Four multiple-choice items and one open-response item overlap across adjacent forms of the KCCT. The overlapping items across forms are used in the current year forms equating. Because of the overlapping items, at a single grade level for a content area, there are 30 unique open-response items and 120 unique multiple-choice items.

Table 1

2005 – 2006 Assessment Components Number of Test Items by Core Content and Grade									
	KCCT							Portfolio	
Grade	**Reading**	**Math**	**Science**	**Social Studies**	**On-Demand Writing**	**Arts & Hum**	**PL/VS**	**Writing**	**Alt Portfolio***
4	6 OR 24 MC		6 OR 24 MC		X			X	X
5		6 OR 24 MC		6 OR 24 MC		2 OR 8 MC	2 OR 8 MC		
7	6 OR 24 MC		6 OR 24 MC		X			X	
8		6 OR 24 MC		6 OR 24 MC		2 OR 8 MC	2 OR 8 MC		X
10	6 OR 24 MC						2 OR 8 MC		
11		6 OR 24 MC	6 OR 24 MC	6 OR 24 MC		2 OR 8 MC			
12					X			X	X

Key: OR - **O**pen **R**esponse; MC - **M**ultiple **C**hoice; X - On-Demand Writing or Writing Portfolio;
*"Alt Portfolio" denotes submission of the Alternative Portfolio.
Note: Number of test items excludes pre-test items.

Open- Response (OR)

The scoring contractor trains professional scorers to score all the open-response items on the KCCT. It takes hundreds of scorers more than two months to score the tens of thousands of student responses obtained each year from the administration of the KCCT.

OR items are scored on a 0 to 4 scale for each item. Each open-response item has its own unique scoring rubric.
An off-topic answer or an answer that merely restates the question to an open-response item would receive a 0. Students must respond with relevant information to receive a higher score. An outstanding answer to an open-response item is correct, thorough and well communicated.

The item score of 1, 2, 3 or 4 DOES NOT correspond to Novice, Apprentice, Proficient and Distinguished (N, A, P and D), respectively.

In Kentucky, OR items are very important to the statewide assessment because Proficient and Distinguished performance across OR items depends on students having received high-quality instruction. While students who score mostly 3s and 4s on the open-response items within a content area have a higher probability of scoring a Proficient or Distinguished within that content area, ***the item score of 1, 2, 3 and 4 DOES NOT correspond to Novice, Apprentice, Proficient and Distinguished (N, A, P and D), respectively***.

Multiple Choice (MC)

Larger numbers of test items lead to higher reliability.

The KCCT has multiple-choice items that are scored correct or incorrect. Multiple-choice items allow the KCCT coverage of the content domain and increase the reliability of scores within a content area. The same item-development procedures are followed for both types of item formats. Multiple-choice items along with the open-response items measure Kentucky's *Core Content for Assessment*.

Performance Levels

In June 2001, the Kentucky Board of Education set new standards for the Commonwealth Accountability Testing System. The new cut points for determining performance levels do not vary from year to year. However, percentiles associated with the performance levels should shift reflecting student growth.

Cut points used to assign the four performance levels of Novice, Apprentice, Proficient and Distinguished to student work are derived from an underlying scale that remains constant over time through equating. During standard setting, cut-scores for N, A, P and D were set according to teacher's judgments of the *totality* of a student's work, or from reviewing numerous test items provided. The determination of the cut points for non-performance, medium and high Novice is calculated by splitting the Novice interval of the scale into three approximately equal intervals. The same procedure was followed to obtain low, medium and high Apprentice performance levels.

Writing Portfolio

As part of the assessment, students developed writing portfolios. The "holistic" performance level scores submitted by teachers trained to evaluate portfolios are presented on the Individual Student Report, Student Listing and the Kentucky Performance Report (KPR.)

Accommodations and Modifications

Accommodations and modifications must be stipulated in the student's Individual Education Plan (IEP), 504 Plan or Program Services Plan for limited English proficient students (PSP) and must have been used throughout the school year.

Kentucky offers accommodations or modifications for assessment to students who qualify under 703 KAR 5:070. As per regulation the accommodation(s)/ modification(s) used in assessment must be stipulated in the student's Individual Education Plan (IEP), 504 plan or Program Services Plan for limited English proficient students (PSP) and must have been used with the student throughout the school year. For example, if a student's IEP allows a scribe during regular instruction, the student will be allowed a scribe for the statewide assessment. Other accommodations or

modifications, when consistent with the normal on-going delivery of instruction may include:

- Reading text in English (Reader)
- Paraphrasing directions for tasks in English
- Oral word-for-word translation of text
- Use of technology
- Use of extended time
- Use of manipulative
- Use of grammar or spell-checker.

Alternate Portfolio Program (AP)

The Alternate Portfolio Program allows students with the most significant cognitive disabilities to participate in the assessment.

The AP is designed to reflect the special curriculum of the students who have the most significant cognitive disabilities. Students who cannot participate in the regular curriculum, even with accommodations, are required submit an alternate portfolio once at each school level (elementary, middle and high school). Only a small number of students qualify each year for the alternate portfolio program.

Testing Exemptions

With few exceptions, all students in Kentucky must participate in the regular assessment or the alternate portfolio. Foreign exchange students are exempt from the statewide assessment. Additionally, students can receive a medical exemption if certain criteria are met; however, the student's handicapping condition alone *cannot* be the basis of the exemption. Generally, less than one percent of students statewide are exempted each year from Kentucky's assessment program.

Spring Testing and the Accountability Index

Schools are held accountable for students enrolled one hundred *instructional* days (not necessarily consecutive) in a school.

For 2005-2006 school year, testing was completed in the spring of 2006. Schools are held accountable for students enrolled one hundred (100) *instructional* days (not necessarily consecutive) in a school, from the first day of school to the first day of testing window.

Kentucky Performance Report (KPR) Overview

This document gives detailed information on how to interpret and use the assessment results. As required in statute, these reports are received by school districts 150 days after the first day of the testing window.

KPR includes:

- **Cover Page and Introduction** – The first page of the report provides some introductory comments from the Commissioner of Education as well as the school and district name and a table of contents. The second page gives a brief overview of the assessment system and is a good starting point for teachers new to Kentucky or anyone unfamiliar with testing in Kentucky.
- **Accountability Cycle 2006, Growth Chart**– This page provides all the summary information pertaining to a school's accountability classification, including the growth chart unique to each school. The growth chart includes a Goal Line represented by a straight line that begins in 2000 at the baseline and ends in 2014 at 100 as well as an Assistance Line that begins in 2000 and ends in 2014 at 80.
- **Accountability Trend** – This page provides more detailed summary of information relative to a school's accountability calculations for 1999-2006, including academic indices for each content area, non-academic indicators, national norm-referenced test indices, the accountability index and the number of accountable students.
- **Disaggregation Index Trends, Academic Index** – This page provides detailed information of the total academic index for each subpopulation of sufficient size from 2001 to 2006. Vertical bar charts present side-by-side, across-year comparisons of academic index trend data.
- **Content Area Index Trends** – These pages give comparisons/trends across multiple years *within* each content area and the overall academic index for each school. Horizontal bar charts are used in this presentation of the data.
- **Academic Index Comparisons** – These pages give comparisons of school, district, and state academic indices for each content area and the overall academic index for each school. Horizontal bar charts are used in this presentation of the data.

Reports for each content area contain all or part of the following:

- **Trend Data: Number and Percent** – The beginning page of the content area report – For a content area (e.g., reading), a single page gives horizontal bar charts for across-year comparisons of the percentage of students achieving Distinguished, Proficient, Apprentice (high, medium and low) and Novice (high, medium and non-performance).

- **Sub-Domain** – The second page of the content area report – For a content area (e.g., reading), the school and state means for groups of items that measure each sub-domain are presented numerically and graphically. Mean item scores are calculated using both the open-response and multiple-choice questions together and are on the 0 to 4 open-response scale. A measure of standard error is provided in the graph.
- **Core Content -** The third page of the content area report provides further detail on the performance of students by content area sub-domain and section for both multiple-choice and open-response questions. The same core content codes published in Kentucky's Core Content for Assessment are used on this report. Core content results for on-demand writing are also provided.
- **Questionnaire Data** – The fourth page of the content area report provides student questionnaire data relevant to the content area. All questionnaire information is based on students who actually answered the questionnaire and may not represent all students who took the test. This information is not part of accountability.
- **Disaggregation: Performance Level Percents** – The fifth page of the content area report provides stacked bar charts presenting a side-by-side comparison of the percentage of students achieving Distinguished, Proficient, Apprentice and Novice for a subpopulation of sufficient size. The report features a table on the right-hand side of the page displaying the performance level percents. Disaggregation performance level results for on-demand writing are also provided.
- **Disaggregation Index Trends** – The sixth page of the content area report provides detailed summary information for the content area academic index for each subpopulation of sufficient size from 2001 to 2006. Vertical bar charts present side-by-side, across-year comparisons of content area academic index trend data.
- **Mean Scale Score/Standard Deviation** – The seventh page of the content area report for most of the content areas provides descriptive statistics for scale scores. Scale score means and standard deviations (presented graphically as an interval) are given for a number of important student groups.
- **Scale Score Data Disaggregation** – On the eight page of the content area report, scale score comparisons are provided for subpopulations. A standard error accompanies each scale score, differences between certain student groups (e.g., male vs. female, White vs. African-American) are calculated, and a test of statistical significance is given for each comparison. In addition, the academic index computed by student group is included on the report. Since scale scores are not computed for writing, the data disaggregation page for writing presents performance level percents.

- **National Norm-Referenced Test (NRT)** – This page provides the percentage of students assigned to each accountability weight (i.e., 0, 60, 100, 140) for the National Percentile ranges 1-24, 25-49, 50-74, and 75-99, respectively in the calculation of an index.
- **NRT Data Disaggregation** – For the state mandated components of the TerraNova, Form D, important comparisons are provided for the same student groups given previously in the KPR.

Student Reports:

- **Individual Student Report** – The Individual Student Report informs students and parents about individual student performance on the Kentucky Core Content Tests. Student answers to open-response questions are evaluated on a scale of 0-4, with higher scores associated with more complete and accurate responses. Multiple-choice questions are given a raw score value of 1 for a correct answer and 0 for an incorrect answer. The main features of the Individual Student Report are the student's performance level (Novice non-performance, Novice medium, Novice high, Apprentice low, Apprentice medium, Apprentice high, Proficient, Distinguished), and Kentucky percentile ranking in each content area.
- **Student Listing** – The Student Listing report provides all the information in the Individual Student Report in a concise and convenient form. For each student and tested content area, the report lists the student's name and the State student identification number (SSID, a state assigned number unique to each student), an indicator of any testing accommodations used by the student (when such accommodations were indicated on the Student Test Booklet), as well as the student's scale score, percentile rank and performance level. Scores of students exempted from accountability are not reported. The word "EXEMPTED" is printed in place of scores for these students. Performance levels are based on the student's responses to the entire test -- open-response and multiple-choice questions.
- **Item Level Report** – For multiple choice items, the Item Level Report provides the number of items correct, incorrect, and left blank along with the total number of items possible. The results for the open-response items reflect how students scored on the 0-4 scale for each item. The numbers 0-4 do not correspond directly to performance levels: N, A, P, D. A single content area is reported per page to make individual content area analyses easier. Pre-test items are not included in this report.

KPR Reports – Detailed Explanations

Detailed information on the interpretation and use of the September 2006 assessment and accountability results provided by KDE appear on the following pages. Results presented in these reports are based on data collected from many sources: students, schools, district, KDE.

Most of the report pages discussed are part of the Kentucky Performance Report (KPR). The KPR is designed to show performance for all content areas at the elementary, middle and high school levels. Most school and all district reports will contain data from at least two different grades for each school level.

Explanation of Reports

KPR

- Cover Page & Intro**.**
- Accountability Cycle 2006
- Accountability Trend
- Disaggregation Index Trends
- Content Area Index Trends
- Academic Index Comparisons
- Cluster of Eight (8) Content Domain Reports
- NRT
- NRT Disaggregation

Individual

- Individual Student
- Student Listing
- Item Level

School staff must review the data on the "Student Listing" report to ensure that all students who tested last spring are represented accurately on the reports. Schools have 14 days following official public release of data to report discrepancies by submitting a letter or email to the Commissioner of Education. The data review period ends at midnight (EDT) on October 5, 2006. KDE has provided districts with an electronic Data Review Application to assist in filing data review requests. If your school/district has questions about the data, please contact KDE, Division of Assessment Support at 502/564-4394.

Cover Page and Introduction

The first page of the KPR provides some introductory comments from the Commissioner of Education as well as the school and district name, school code, grade-range covered in the report and a table of contents. The Commissioner of Education's statement generally includes commentary on important policies related to assessment and accountability in Kentucky, i.e., the inclusion of Kentucky teachers in test development, the value of performance standards to instruction, and the goal of 100, or Proficiency by 2014.

The second page of the KPR gives a brief overview of the assessment system and is a good starting point for new teachers or anyone unfamiliar with testing in Kentucky. Some of the topics introduced on this page include the content areas tested at each grade level, the number of multiple-choice and open-response questions assessed in each content area and their respective weights in school accountability, and the particular students for whom a school is held accountable. Examples of the first pages of the KPR follow.

Page 1 contains a letter from the Commissioner and Table of Contents.

Kentucky Department of Education

Gene Wilhoit, Commissioner of Education

During the spring 2005-06 school year, end-of-primary and 4th-12th grade students participated in the Kentucky Core Content Test (KCCT), the Augmented Norm-Referenced Test (A/NRT), the writing portfolio, or the alternate portfolio components of the Commonwealth Accountability Testing System (CATS). This assessment and accountability system was designed by the Kentucky Board of Education through a broad, collaborative process that involved educators, legislators, citizens, the school curriculum, Assessment, and Accountability Council (SCAAC), the Education Assessment and Accountability Review Subcommittee (EAARS), the Office of Educational Accountability (OEA), and the National Technical Advisory Panel on Assessment and Accountability (NTAPAA). Assessments include:

- written tests comprised of open-response and multiple-choice questions in reading, mathematics, science, social studies, arts and humanities, practical living/ vocational studies and an on-demand writing prompt
- a writing portfolio consisting of writing samples showing students' skill in writing
- a national norm referenced test (Terranova 2)in reading, language arts and mathematics augmented with additional reading and mathematics items
- alternate portfolios for students with severe and profound cognitive disabilities

The KCCT assessments were developed under direction of the content advisory committees of Kentucky educators who drafted, reviewed, and selected test questions. Items also were reviewed by a bias review committee to enhance fairness.

Kentucky, as do all other states, addresses its state assessment and accountability requirements, as well as those requirements established in federal statute by the *No Child Left Behind Act of 2001*, through a single testing system. This report focuses entirely on the state aspects of school accountability.

This report is comprehensive and reflects the application of student performance standards to the KCCT. Performance standards are based on descriptions of Novice, Apprentice, Proficient, and Distinguished student performance levels specific to the subject and grade being assessed. The performance standards, in conjunction with Kentucky's Core Content for Assessment, should allow instruction to better focus on the content to be taught and on how well students must demonstrate achievement in each content area.

This report includes eight years of trend data: Spring 1999 through 2006. Each district/school has a growth chart tracking progress beginning with the 2000 biennium through 2006. This progress is compared to goals from 2002 to 2014. For reconfigured schools, the baseline may be established in later years as provided for in 703 KAR 5:020.

Scores in this report should be compared to the absolute standard of Proficient, the goal for Kentucky schools. Results should be analyzed within the context of this goal and curricular and instructional strategies determined that will assist the district/school in achieving this goal. The KCCT has Kentucky's Core Content for Assessment and the descriptive student performance standards as its foundation; therefore, decisions about student achievement and plans for continuous improvement can be guided by a complete analysis of these results.

Kentucky

SPRING 2006
KENTUCKY PERFORMANCE REPORT

School: Any School
District: Any District
Code: 999888
Grade: 06-08

What school, district and grade range is contained the KPR.

CONTENTS OF THIS REPORT

Introduction	1-2
Accountability Data	3
Accountability Trend	4-5
Academic Trend Data	6-7
Reading Results	8-16
Mathematics Results	17-25
Science Results	26-34
Social Studies Results	35-44
Writing Results	45-51
Arts & Humanities Results	54-62
Practical Living/Voc Studies	63-71
National Norm Referenced Test	72-73

Please feel free to contact staff of the Department of Education for assistance in interpreting and using assessment information.

Page 2 contains an overview of state assessments.

Kentucky Department of Education

SPRING 2006
KENTUCKY PERFORMANCE REPORT
Introduction

The Kentucky Performance Report (KPR) is based on the Spring 2006 administration of the Kentucky Core Content Test, writing portfolio, and national norm-referenced test (NRT) results for students in end-of-primary (EP) through grade 12. The report summarizes information for the school, district and state. These results also reflect performance of students participating in the *Commonwealth Accountability Testing System* Alternate Portfolio Assessment at grades 4, 8, and 12.

Students in grades 4,5,7,8,10, 11 and 12 completed batteries of open-response and multiple-choice questions (referred to as the Kentucky Core Content Tests) in selected contents for each grade.

	EP	4	5	6	7	8	9	10	11	12
Reading		■			■			■		
Mathematics		■	■		■	■				
Science		■			■				■	
Social Studies			■			■			■	
Arts & Humanities			■			■			■	
Practical Living/ Vocational Studies			■			■		■		
Writing	■	■			■					■
NRT	■			■			■			

In reading, mathematics, science and social studies, 6 forms of the test were administered, each containing 6 open-response and 24 multiple-choice questions used for reporting and accountability purposes. (Each form also included an additional open-response item and 4 multiple-choice items for field test purposes. Field test items are not included in reporting or accountability data.)

In arts & humanities and practical living/vocational studies, there were 12 forms of the assessment, each containing 2 open-response and 8 multiple-choice items used for reporting and accountability purposes. (An additional open-response and 4 multiple-choice items were included for field test purposes.)

Writing data are based on the administration of writing prompts distributed across 6 forms (students select one of two prompts) and the writing portfolio.

Multiple-choice questions are included in the 2006 data reported here and are combined with the open-response data. They are included such that multiple-choice items are weighted at approximately 33% and open-response items at approximately 67%.

Students in grades end-of-primary, 6 and 9 completed batteries of multiple-choice questions in selected content areas of reading, language arts and mathematics on a national norm referenced test(NRT). For end of primary students and 6th graders this was part of a longer test, the Augmented NRT. (Results from this complete test were reported earlier on a separate report.)

Schools are accountable for students enrolled 100 instructional days prior to and including the first day of the testing window. All students enrolled on the first day of the testing window should participate in the mandated testing.

Kentucky law states that, "schools shall expect a high level of achievement of all students." It also states that, "schools shall be rewarded for an increased proportion of successful students, including those students who are at risk of school failure."

Therefore, there are virtually no exemptions from the testing. Students not included in the data summarized here include:

- Foreign exchange students.
- Students determined to be medically unable to participate in the assessment.
- Students expelled from school and not receiving services
- Limited English-speaking students in the first year in a U.S. school are required only to take mathematics

The number and percent of students who did not participate for these reasons are provided in this report. Any other student for whom the school is accountable but who was not tested is assigned to the "Novice Non-Performance" level. The number and percentage of students who received this type of "Novice" rating are also in the report.

Accountability Cycle 2006

The **Accountability Cycle 2006** page summarizes information pertaining to a school's Accountability Classification. On the left side of this page, the Growth Chart is unique to each school or district. On the right side, the Growth Table features school or district results and accountability target values. The Growth Chart includes a Goal Line represented by a straight line that begins in 2000 at the Baseline and ends in 2014 at 100. The school in this example has a Baseline year index of 63.3, located in the school column. The Baseline year index minus the standard error is the Goal Baseline. The standard error appears in the last cell of the table. The Goal Baseline for this school is 62.2, located in the Accountability Column.

Biennial means two years. Accountability Index calculations have to be performed for both years of the baseline and for both years of the subsequent target years.

CATS Accountability Model

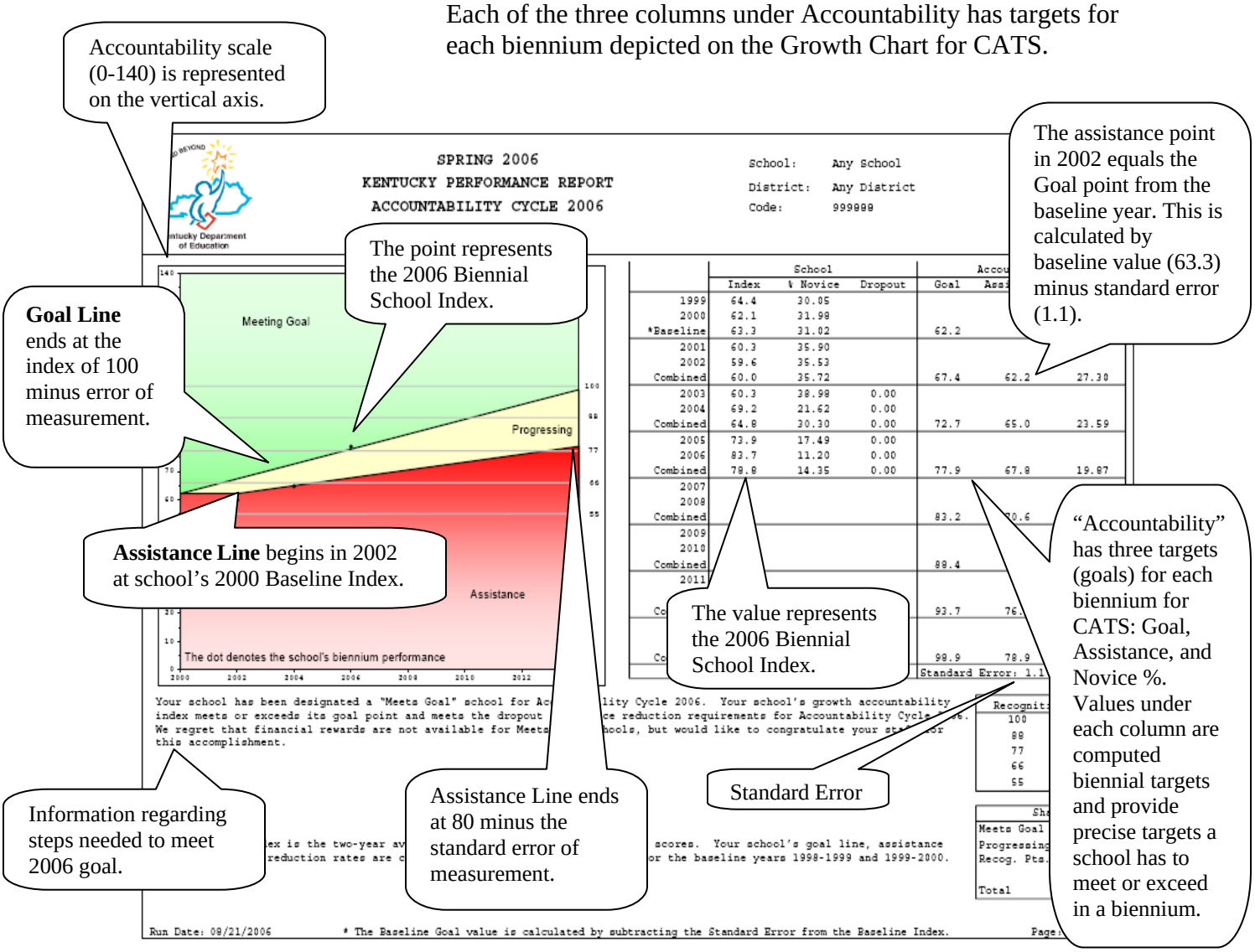
The weighted composite formula for the Accountability Index is for one year only. The intermediate targets which will eventually take a school to the goal of 100 are set biennially, or every two years.

The CATS goal for all schools is to reach Proficiency, or a growth index of 100, by 2014. The interim targets established for each two-year Accountability Cycle beginning in 2002 and ending in 2014 represent a requirement that achievement improve by a set amount each year. Each school and district has a unique set of growth targets. The CATS Accountability baseline[3] index is the arithmetic mean of the Accountability Index for 1999 and for 2000, i.e., (1999 Index + 2000 Index)/2. In the same way, the growth index for the CATS Accountability Cycle ending in 2002 is the arithmetic mean of the Accountability Index for 2001 and for 2002, or (2001 Index + 2002 Index)/2. The growth indices for the remaining Accountability Cycles are calculated in the same way. Growth targets are calculated using the following formulas:

For 2002: (((100-baseline)/7) X 1) + baseline
For 2004: (((100-baseline)/7) X 2) + baseline
For 2006: (((100-baseline)/7) X 3) + baseline
For 2008: (((100-baseline)/7) X 4) + baseline
For 2010: (((100-baseline)/7) X 5) + baseline
For 2012: (((100-baseline)/7) X 6) + baseline
For 2014: (((100-baseline)/7) X 7) + baseline

[3] Recall: For reconfigured schools, the baseline may be established in later years as provided for in 703 KAR 5:020.

Accountability Column (Goal, Assistance, and Novice): Each of the three columns under Accountability has targets for each biennium depicted on the Growth Chart for CATS.



The Goal Line and the Assistance Line each incorporate a standard error. Larger schools have a smaller standard error than smaller schools.

- **Assistance Column**: Presented under "Accountability" are values that comprise the Assistance Line, i.e., the line separating the Assistance area from the Progressing area on the Growth Chart. The Assistance targets appear in the Assistance column of the Growth Table. The Baseline Assistance point in 2002 equals the Goal point from the baseline year. This is calculated by Baseline value minus standard error. The standard error is also subtracted from the Assistance Line. The Assistance Line begins in 2002 at the school's 2000 Goal Baseline Index and extends to 80 in 2014. The Assistance targets were determined from the Assistance Line. If a school's index meets or exceeds the Assistance Line target, but is below the Goal Line target, then the school is considered Progressing (Yellow). If a school's index is below the Assistance Line target the school is in Assistance (Red).

Standard Error: The Goal Line and the Assistance Line each incorporate a standard error ranging in size from approximately 0.5 to 3.0 depending upon school size and school level (elementary, middle and high school). Larger schools with many students will have a smaller standard error than smaller schools with fewer students. In the KPR, the standard error is subtracted first, and then a line is drawn to depict the Goal Line and the Assistance Line; therefore, a fairness margin (standard error) is included for both lines.

The standard error (fairness margin) takes into account that there are errors of measurement in any assessment program. These errors are not errors in the sense that a mistake has been made; rather, they reflect the realization that measurement is imprecise. Measurement experts strongly recommend that test publishers and other reporting agencies properly represent measurement error when reporting test scores. In providing standard error for the Goal and Assistance Lines, the CATS Accountability Model gives an acceptable cushion to schools in that, if a school is just *below* the Goal line, but within one standard error, the school is treated or categorized as if the school were at or above the Goal Line. The same holds true for the Assistance Line.

Schools must reduce their percent of Novices on a schedule. By 2014, each school must have no more than 5% Novices.

- **Novice Column**: Targets for Novice reduction for each biennium are presented in the % Novice column under "Accountability". With regard to Novice reduction, schools must reduce their percent of novices on a schedule, so that by 2014, 5% or less of the student population scores Novice. The Baseline for the Novice reduction criteria was calculated by first obtaining the percent of Novice in each of the seven content areas (i.e., reading, mathematics, science, social studies, arts and humanities, practical living/vocational studies and writing). Each of these percentages was then weighted by the same weights used to calculate an Accountability Index. Next, five percent was subtracted from the Baseline percent Novice and the remainder divided by seven (the number of biennia from 2002 to 2014). Finally, this last figure was subtracted from the Baseline value once to determine the Novice reduction goal for 2002, twice to determine the Novice reduction goal for 2004, three times for 2006, and so on for each of the remaining biennia.

The data in the three columns under School represent *actual school values* for the school years indicated.

School Column (Index, Novice Dropout):
While all the values provided in the three columns under Accountability represent ***targets*** established from the baseline years of 1999 and 2000, the data in the three columns under **School** represent ***actual school values*** for the school years listed in the first column. The first column labeled "Index" contains the Accountability Indices achieved by the school during the school years listed.

For accountability, a school's dropout rate (reflected on the growth chart page) is based upon the grade range in the school. For example, a 7-12 school will have a dropout rate based upon grades 7 through 12.

- **Novice Column:** The second column under School presents the school's percentage of Novices. This percentage must be less than or equal to the % Novice target in the Accountability column, % Novice.

- **Dropout:** If the school is a high school or includes high school grades (9-12), the Dropout criterion applies. The criteria for the dropout rate is less than or equal to 5.3 percent, or a dropout rate that is at least 1/2 percent lower than its dropout rate of the previous biennium. A school cannot qualify for rewards at the end of the biennium if its dropout rate exceeds 6 percent.

Below the Growth Chart:
At the end of a biennium, the Accountability Classification for the school is presented in the notes below the Growth Chart and Table. A Midpoint Report with explanation of steps needed to meet biennium goal is provided in odd numbered years. No classification is given in the Midpoint Report.

The highest scoring five (5) percent of all schools shall be designated as Commonwealth Pace-setter schools if they have met or exceeded the fourth point of recognition and if they meet the dropout rate and novice reduction requirements.

Rewards and Recognition:
In addition to the accountability criteria, schools can qualify for rewards at the end of the biennium, three other ways as long as the Novice reduction and Dropout criteria have been satisfied:

- Successful School: the school is in the Progressing area of the Growth Chart, and increased its Accountability Index in the second biennium
- Successful School: the school passes any one of the five Recognition Points (i.e., 55, 66, 77, 88, 100).
- Commonwealth Pace-setter School: the school is in the top five percent of all schools and has met or exceeded the fourth recognition point of 88.

Schools in Assistance:
Besides establishing a biennial system of rewards for school improvement, every two years CATS provides assistance for schools that do not perform as expected (*see 703 KAR 5:120 Assistance for schools; guidelines for scholastic audit*). According to regulation, in 2006 all schools falling into the Assistance classification will be rank-ordered from highest to lowest according to the school's combined 2005/2006 Accountability Index. This set of schools will then be divided into thirds. The top third will be designated Level 1 schools, the middle third Level 2, and the bottom third Level 3. The following bullets briefly summarize the audit/review process for these schools:

Schools in Assistance are ranked and grouped into three levels:

Level 1: Scholastic self-review

Level 2: Scholastic review

Level 3: Scholastic audit

- **Level 1 –**The school shall adhere to the requirements for a "Level 1" school as defined in 703 KAR 5:120 Section 2. Level 1 schools must conduct a scholastic review and self-study facilitated by the district's professional development coordinator with assistance provided by Kentucky Department of Education staff. Assistance Level 1 schools may be eligible to receive Commonwealth school improvement funds.
- **Level 2** – The school shall adhere to the requirements for a "Level 2" school as defined in 703 KAR 5:120 Section 3. Schools are required to receive a scholastic review by a team set up by KDE. The team must include local district members. Level 2 schools shall receive a scholastic review facilitated by a designee of the Commissioner of Education with assistance from the district's central office staff. Assistance Level 2 schools may be eligible to receive Commonwealth school improvement funds.
- **Level 3** – The school shall adhere to the requirements for a "Level 3" school as defined in 703 KAR 5:120 Sections 4, 5, 6, 7, 8 and 9. Schools will be scheduled for scholastic audits by an external team coordinated by KDE. Level 3 schools shall receive education assistance from a highly skilled educator under KRS 158.782 and a scholastic audit. Assistance Level 3 schools may be eligible to receive Commonwealth school improvement funds.

Accountability Trend

The Accountability Trend page provides a one-page look at many aspects of accountability data, and can be used to verify the calculation of the accountability index.

The Accountability Trend page provides detailed summary information relative to a school's accountability calculations for each year of the cycle, including academic indices for each content area, nationally norm-referenced test indices, non-academic indicators and the number of accountability students. While some of the same information on this page is presented in a more graphic, user-friendly format on other pages of the KPR, the Accountability Trend page is important because it provides a one-page look at many aspects of accountability data. This is the only page of the KPR that provides the non-academic data and NRT indices for eight years (1999-2006).

The information in the Academic Index table is graphically displayed on the Content Area Index Trends page.

The academic index trends across years can be evaluated to assess growth to determine the relative strengths and weaknesses of each content area. In addition, values on this page can be used to replicate or check the calculation of the Accountability Index for each year. The content area index computations include scores of Alternate Portfolio students and are carried out to four decimal places, the same precision used by KDE in the calculations.

Title of each report appears in this area.

Academic Index in each content area 1999-2006 is displayed in this table.

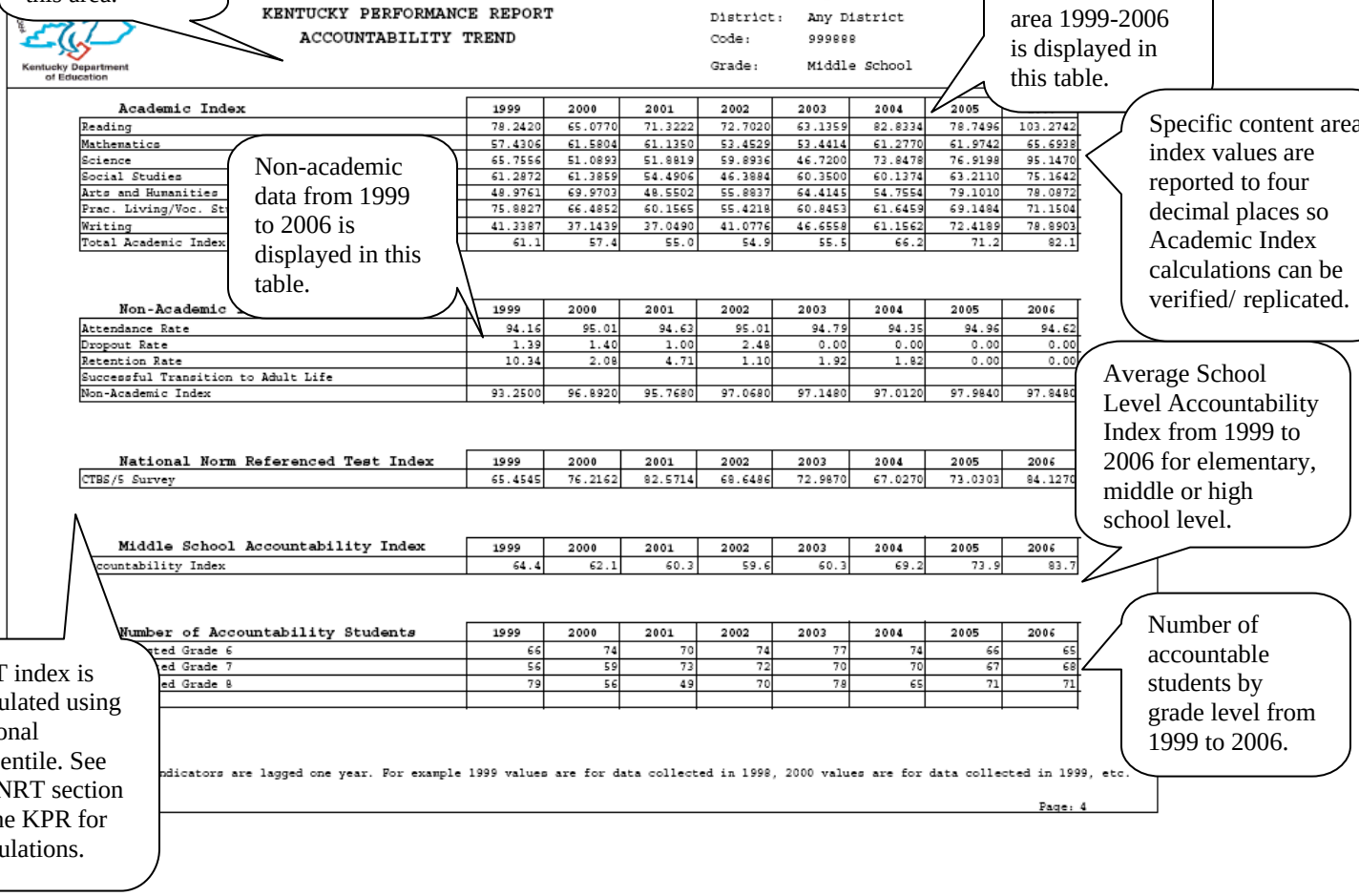
Non-academic data from 1999 to 2006 is displayed in this table.

Specific content area index values are reported to four decimal places so Academic Index calculations can be verified/ replicated.

Average School Level Accountability Index from 1999 to 2006 for elementary, middle or high school level.

Number of accountable students by grade level from 1999 to 2006.

NRT index is calculated using national percentile. See the NRT section of the KPR for calculations.



SPRING 2006
KENTUCKY PERFORMANCE REPORT
ACCOUNTABILITY TREND

School: Any School
District: Any District
Code: 999888
Grade: Middle School

Kentucky Department of Education

Academic Index	1999	2000	2001	2002	2003	2004	2005	
Reading	78.2420	65.0770	71.3222	72.7020	63.1359	82.8334	78.7496	103.2742
Mathematics	57.4306	61.5804	61.1350	53.4529	53.4414	61.2770	61.9742	65.6938
Science	65.7556	51.0893	51.8819	59.8936	46.7200	73.8478	76.9198	95.1470
Social Studies	61.2872	61.3859	54.4906	46.3884	60.3500	60.1374	63.2110	75.1642
Arts and Humanities	48.9761	69.9703	48.5502	55.8837	64.4145	54.7554	79.1010	78.0872
Prac. Living/Voc. St	75.8827	66.4852	60.1565	55.4218	60.8453	61.6459	69.1484	71.1504
Writing	41.3387	37.1439	37.0490	41.0776	46.6558	61.1562	72.4189	78.8903
Total Academic Index	61.1	57.4	55.0	54.9	55.5	66.2	71.2	82.1

Non-Academic	1999	2000	2001	2002	2003	2004	2005	2006
Attendance Rate	94.16	95.01	94.63	95.01	94.79	94.35	94.96	94.62
Dropout Rate	1.39	1.40	1.00	2.48	0.00	0.00	0.00	0.00
Retention Rate	10.34	2.08	4.71	1.10	1.92	1.82	0.00	0.00
Successful Transition to Adult Life								
Non-Academic Index	93.2500	96.8920	95.7680	97.0680	97.1480	97.0120	97.9840	97.8480

National Norm Referenced Test Index	1999	2000	2001	2002	2003	2004	2005	2006
CTBS/5 Survey	65.4545	76.2162	82.5714	68.6486	72.9870	67.0270	73.0303	84.1270

Middle School Accountability Index	1999	2000	2001	2002	2003	2004	2005	2006
ccountability Index	64.4	62.1	60.3	59.6	60.3	69.2	73.9	83.7

Number of Accountability Students	1999	2000	2001	2002	2003	2004	2005	2006
ted Grade 6	66	74	70	74	77	74	66	65
ed Grade 7	56	59	73	72	70	70	67	68
ed Grade 8	79	56	49	70	78	65	71	71

dicators are lagged one year. For example 1999 values are for data collected in 1998, 2000 values are for data collected in 1999, etc.

Page: 4

Disaggregation Index Trends - Academic Index

The Disaggregation Index Trends page provides important information for subpopulations and studying trends for progress toward proficiency. This report presents Academic Index comparisons/trends for multiple years, for the following student subpopulations:

Table 2

Student Sub-Populations

- Gender (Female and Male)
- Ethnicity (White, African-American, Hispanic, Asian)
- Free or Reduced Lunch Approved (price of lunch free or reduced)
- Free or Reduced Lunch Non-Approved (price *not* reduced)
- Non-Limited English Proficiency
- Limited English Proficiency For NCLB
- Exit LEP 2 Years Prior
- Identified Limited English Proficiency
- No Disability (students without disabilities)
- Disability (students with disabilities)
- Disability (Accommodations)
- Disability (No Accommodations)

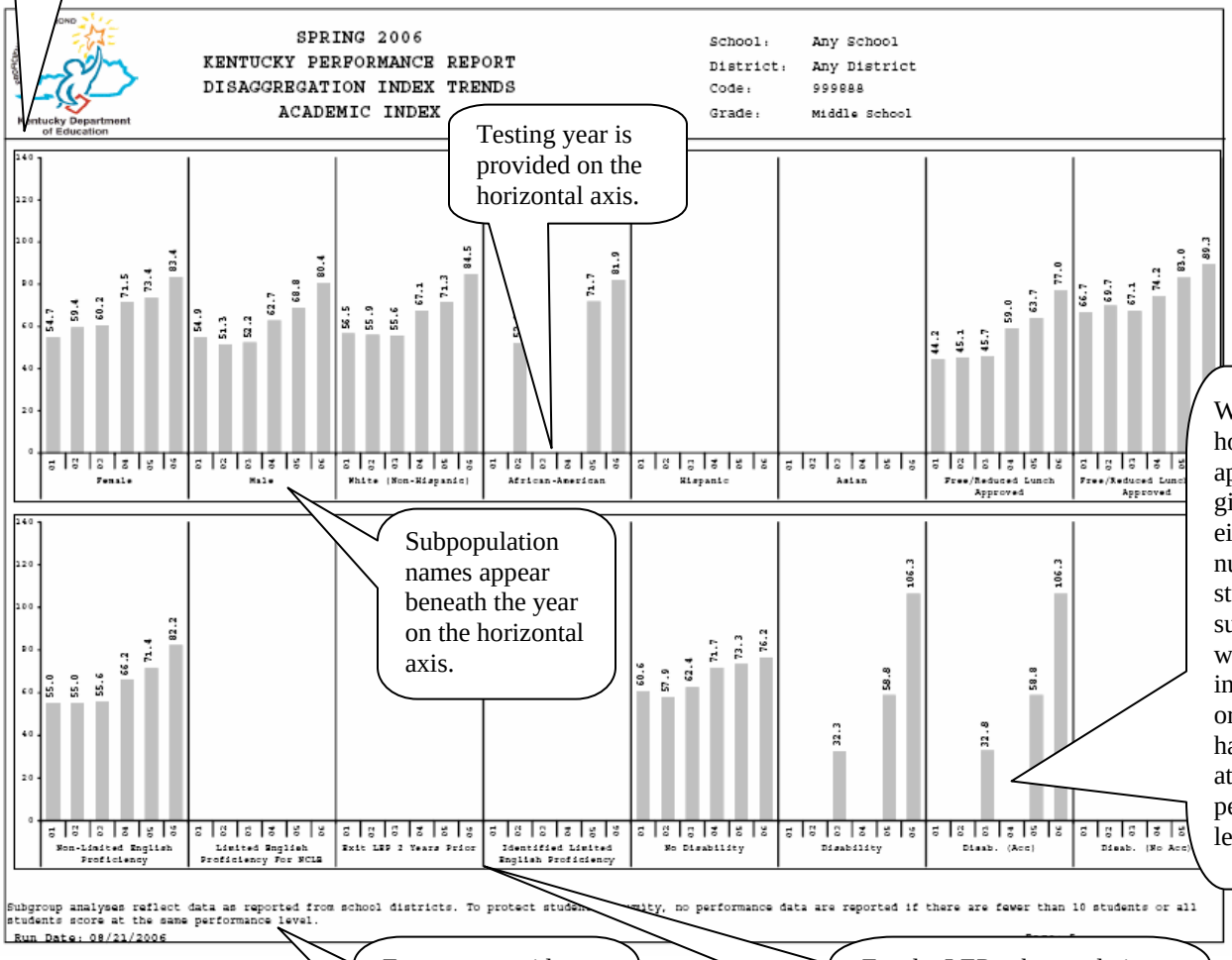
English Proficiency

Non-Limited English Proficiency	Students who are not limited English Proficient (i.e., native English speakers and speakers of English as a second language who demonstrate no need for LEP services.)
Identified Limited English Proficiency (LEP)*	Students who are identified LEP based on the results of a state-approved English language proficiency assessment in conjunction with professional judgment.
Exit LEP 2 Years Prior**	Students who once received LEP services, but exited from LEP status in the preceding two years (prior to the current year) based on the results of a state-approved English language proficiency assessment in conjunction with professional judgment. These students are not included in the NCLB AYP calculations for LEP* subgroup n-count.
Limited English Proficiency for NCLB	Students who have been identified and/or served as LEP* students in the current year, and students who have exited from LEP status the preceding two years** (prior to the current school year) based on the results of a state-approved English language proficiency assessment in conjunction with professional judgment.

Non-Disability and Disability Groups

No Disability	Students who do not have a current IEP or 504 Plan.
Disability	Students who have a current IEP or 504 Plan.
Disability (Acc.)	Students whose IEPs/504 Plans provide for accommodations during the CATS assessment.
Disability (No Acc.)	Students whose IEPs/504 Plans do not provide for accommodations during the CATS assessment.

Vertical bars reflecting subpopulations allow comparison of Academic Indices by year from 2001 through 2006, as indicated on the horizontal axis. Index values printed above each bar are based on the 0 to 140 scale, displayed on the vertical axis. Index values are rounded to one decimal point. Calculation of index values *includes* scores of students submitting a portfolio in the Alternate Portfolio program. *Results are not reported where the subpopulation is comprised of fewer than 10 students or all students happen to score at the same proficiency level.*



The vertical axis scale ranges from 0 to 140.

Testing year is provided on the horizontal axis.

Subpopulation names appear beneath the year on the horizontal axis.

Where no horizontal bar appears at a given year, either the number of students in the subpopulation was of insufficient size or all students happen to score at the same performance level.

Footnote provides additional information about the graphs.

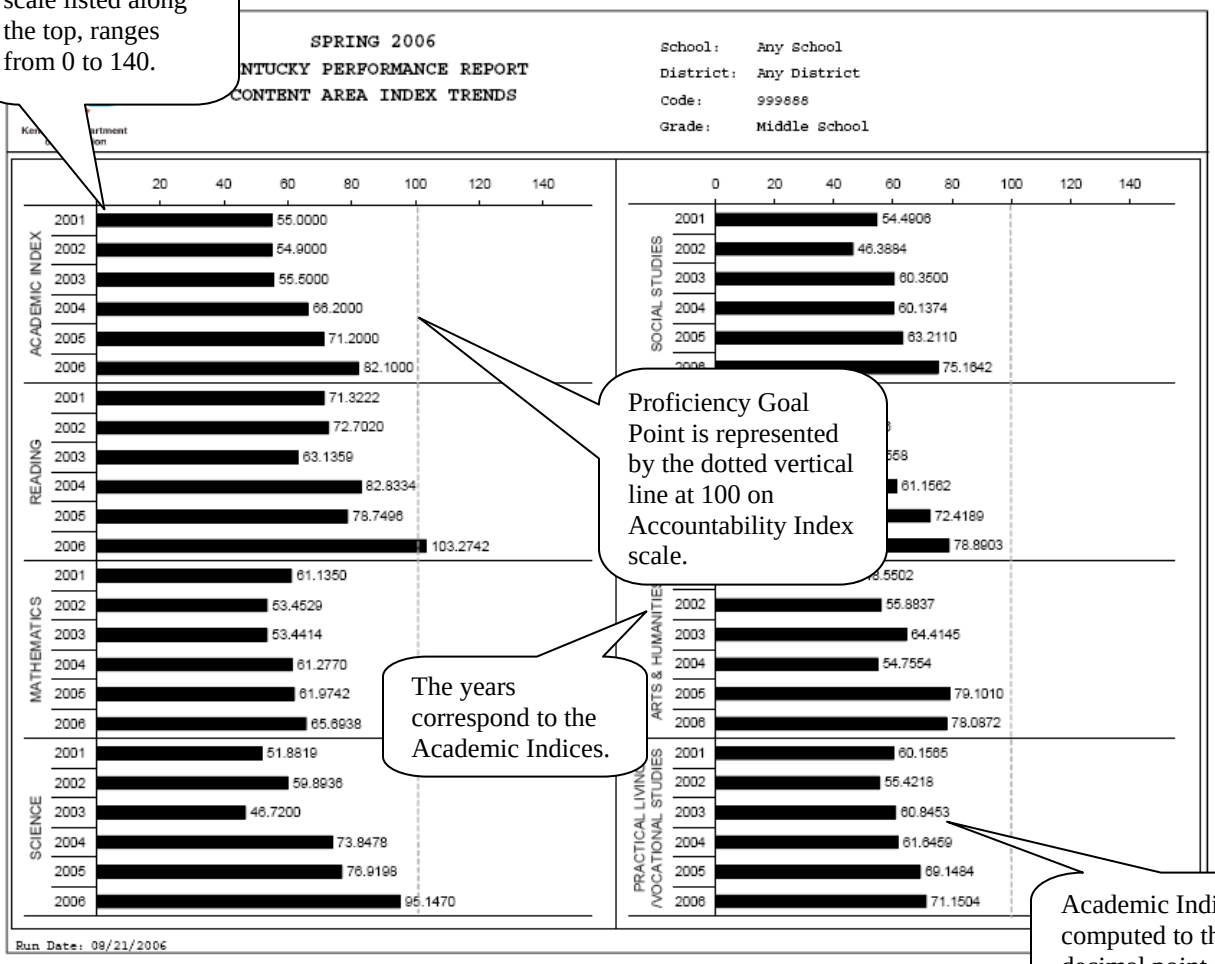
For the LEP sub-population descriptions, please refer to the English Proficiency Table 2 on the previous table.

Content Area Index Trends

Values from the Academic Index chart on the Accountability Trend page are displayed in graphs horizontally on the Content Area Index Trends page.

The Content Area Index Trends page is a one-page report that presents comparisons/trends for multiple years *within* each content area as well as for the overall Academic Index. Horizontal bar charts are used to compare data across the years. Indices are graphed beginning with the spring 2001 KCCT. Index values printed next to each bar reflect the 0 to 140 scale. Values for each year and content area are rounded to four decimal places and can be used to replicate the calculation of Accountability Indices for each year. Comparisons should only be made within a content area and *not* across content areas. Each index value includes the scores of students submitting an Alternate Portfolio.

The horizontal axis scale listed along the top, ranges from 0 to 140.



Proficiency Goal Point is represented by the dotted vertical line at 100 on Accountability Index scale.

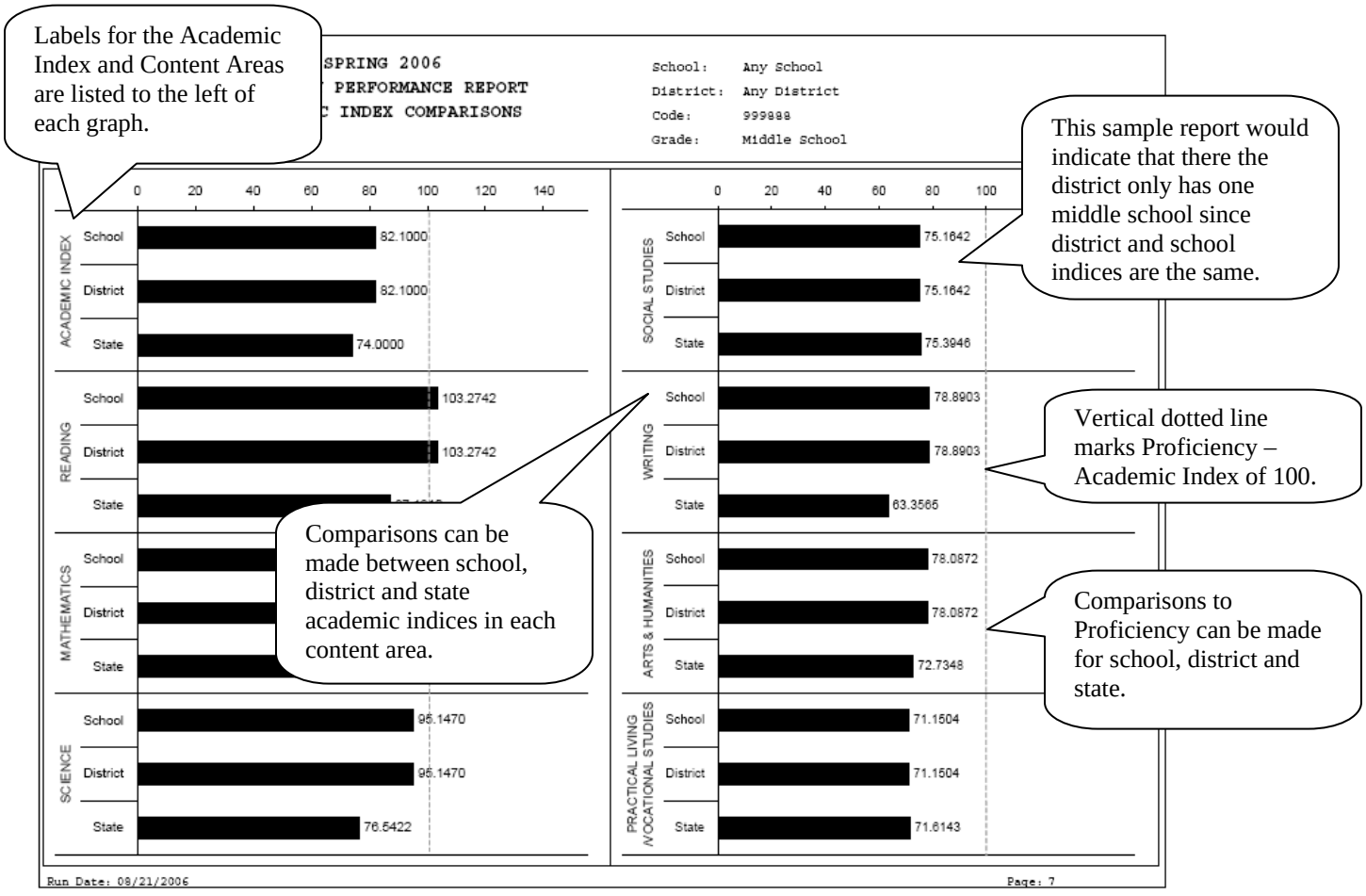
The years correspond to the Academic Indices.

Academic Indices are computed to the fourth decimal point (ten thousandth place).

Academic Index Comparisons

The Academic Index Comparisons report provides a one-page comparison of school, district, and state Academic Indices for each content area and for the overall Academic Index used in accountability. A separate page is provided for each grade level (i.e., elementary, middle and high school). For each index, comparisons are made using horizontal bars in the following order: school, district, and state. Index values are printed next to each bar and reflect the 0 to 140 scale. The bars provide a visual comparison of the *current* year standing of the school as compared to the district and the state. These comparisons (e.g., the difference between the school and state) should be interpreted as normative.

Normative is used with respect to a norm. In this case the norm is the average the school, district and state achieved on the each index.



Index values for the school are the same values used for calculating the school's Academic and Accountability Index; therefore the school indices also provide an indication of how close a school is to the state goal of 100 (i.e., Proficiency) by 2014. Likewise, the district and state indices provide an indication of how close each is to the state goal of 100. The dotted vertical line

marking an index of 100 provides a comparison to the Kentucky performance standard of Proficiency.

Content Area Reports

Each content area has individual reports that give detailed information. A cluster of content area reports is provided for the following: Reading, Math, Science, Social Studies, Writing, Arts & Humanities and Vocational Studies/ Practical Living.

Content Area Reports contain:

- Trend Data: Number and Percent
- Content Area Sub-Domain (No report for writing: portfolio or on-demand writing)
- Core Content
  (On-demand writing Core Content Report is included with the Student Questionnaire Report)
- Student Questionnaire (On-demand writing Student Questionnaire Report is included with Core Content Report)
- Disaggregation Performance Level Percents
- Disaggregation Index Trends
- Mean Scale Score/Standard Deviation (No report for writing: portfolio or on-demand writing)
- Scale Score Data Disaggregation (No report for writing: portfolio or on-demand writing)

Trend Data: Number and Percent

For each content area (e.g., reading), a single page gives horizontal bar graphs for year-to-year comparisons of the percentage of students achieving Distinguished, Proficient, Apprentice (high, medium and low) and Novice (high, medium and non-performance). The trends include comparisons for six years (2001 – 2006.) The horizontal bar graphs give a visual comparison of percentages for multiple years of the assessment. The percentages are printed at the end of each bar.

Writing Trend Data is contained in two areas:

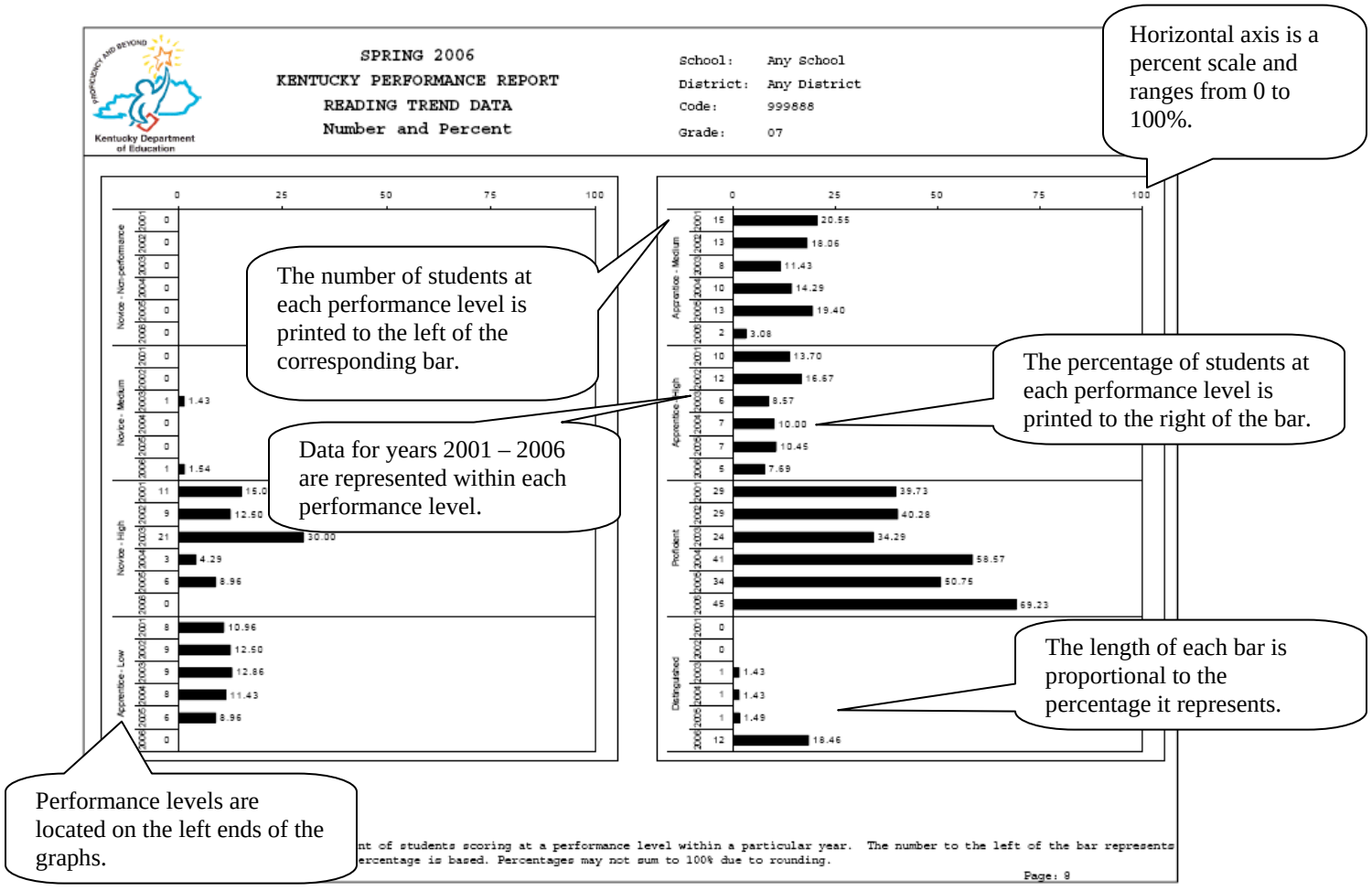
1) Writing Portfolio

and

2) On-Demand Writing

The trend data for **writing** has two pages, because writing performance is evaluated in two ways: the writing portfolio and the on-demand writing prompt. Each of these pages displays only five performance levels: Distinguished, Proficient, Apprentice, Novice, and Novice Non-performance. For writing, the Novice and Apprentice levels of performance are *not* subdivided into three levels. Teachers at the school level completed writing Portfolio scoring, and the assessment contractor scored the on-demand writing prompt.

This data can be used to help schools visualize how their students are progressing through the Novice and Apprentice performance levels. By decreasing the percent of students scoring Novice and increasing the percentage of students scoring Proficient & Distinguished, a school can reach the goal of 100 (Proficiency). The horizontal bars provide a quick visual for comparing percent trends from 2001 to 2006.



Writing Trend Data pages contain five (5) performance levels: Distinguished, Proficient, Apprentice, Novice and Novice Non-performance, instead of eight (8) performance levels.

Sub-Domain Reports are created for the following content areas.

- Reading
- Mathematics
- Science
- Social Studies
- Arts & Humanities
- Practical Living/ Vocational Studies

The open-response 0 – 4 scoring scale does *not* reflect performance standards (NAPD). Kentucky performance standards can only be applied to *broader* samples of student work, such as an entire test.

One item alone does not allow students to demonstrate the full range of knowledge and skills reflected in a performance standard.

Comparing raw–score results between sub-domains is *not* valid, because raw scores do not take the difficulty of the items into account.

Content Area Sub-Domain

The Sub-Domain report presents the school and state mean for groups of items that measure each sub-domain of a content area. In addition, it displays horizontal line graphs, showing the position of the sub-domain means on the 0 – 4 measurement scale. The number of items contributing to each school and state sub-domain mean includes both multiple-choice and open-response items. The multiple-choice items have been transformed from the 0 to 1 (p-value) scale to the open-response item raw-score scale of 0 to 4.

In addition, multiple-choice items are weighted one-third and open-response are weighted two-thirds to reflect the instructional importance of the open-response items and to provide item-mean scores (both school and state) that reflect the same weighting used in accountability calculations. The weighting reflects the importance of open- response item performance in Kentucky accountability.

- Multiple Choice: 0 or 1 (incorrect or correct)
- Open Response: 0 – 4.

Each *correct* multiple-choice answer (in the sub-domain) is first assigned a score of 1. To create the sub-domain score the multiple-choice (MC) total is multiplied by 4, weighted by 1/3 and then combined with the summed open-response (OR) scores, weighted by 2/3. Finally, the two weighted sums are added.

Sub-Domain Total = 1/3 (4 x MC Total) + 2/3 (OR Total)

Important: *The school's mean for each sub-domain can **ONLY** be compared to its respective state mean and **not** "vertically" compared to other sub-domain mean item scores.*

Item means across sub-domains have *not* been equated or "linked" and thus differences in item difficulty have not been taken into account. The standard error of measurement, denoted by the bar running through the school mean, should be considered when drawing conclusions about differences between the school sub-domain mean and the state sub-domain mean.

The school or district sub-domain mean is represented by a dot.

●

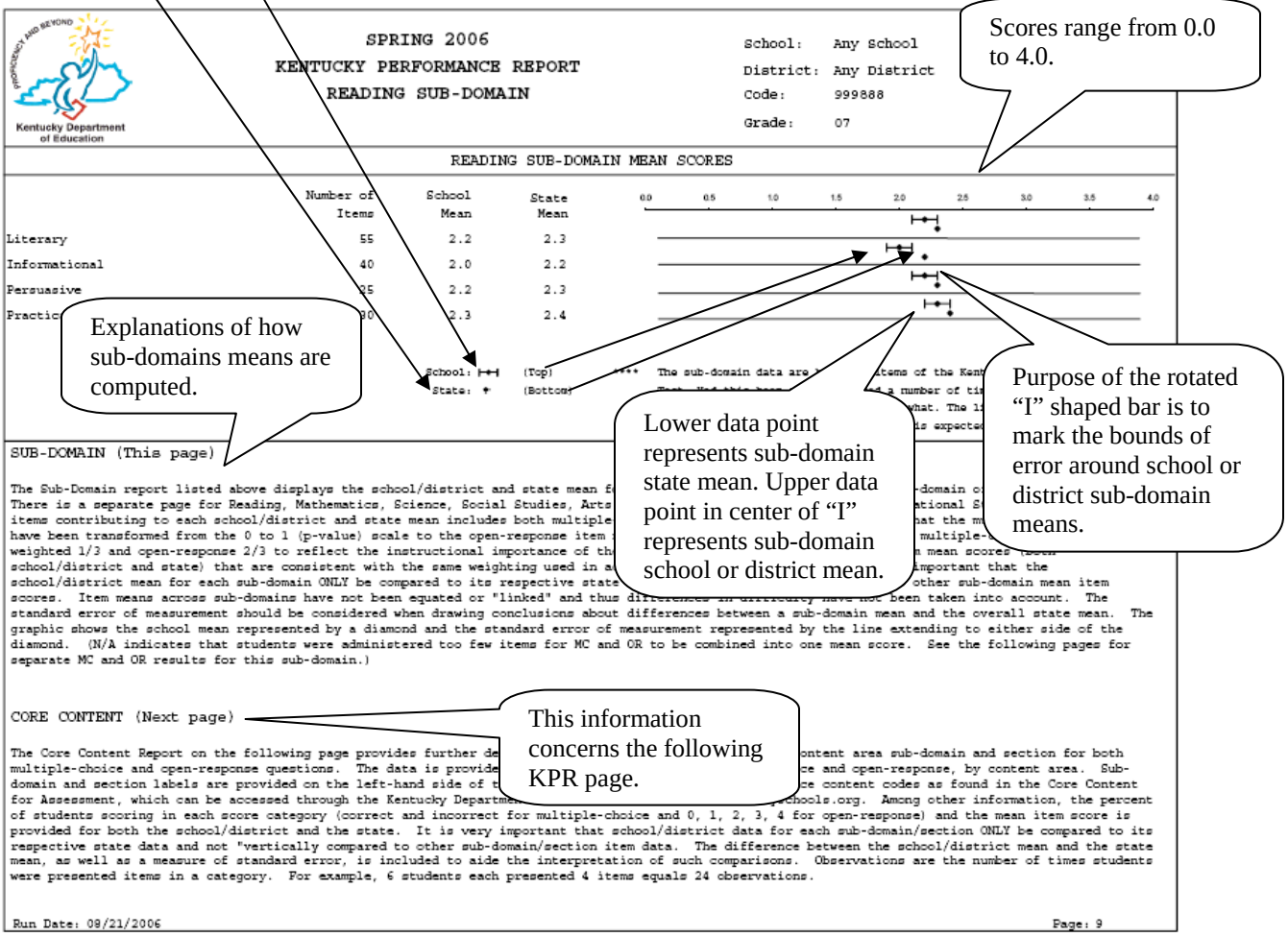
The standard error band around the sub-domain mean looks like an 'I' turned on its side:

I

The state mean is represented by a diamond, positioned a bit lower than the dot.

◆

The mean sub-domain scores can be used to identify the sub-domain areas that a school may want to target for future improvement. In the example that follows, the school mean is larger than the state mean for each sub-domain. In each case where the school standard error "bar" overlaps the state mean "diamond," the difference between the two values can be attributed to random error – it is not large enough to warrant further examination. The Core Content pages of the KPR can provide further insight into the strengths and weaknesses of a content area.



SPRING 2006
KENTUCKY PERFORMANCE REPORT
READING SUB-DOMAIN

School: Any School
District: Any District
Code: 999888
Grade: 07

READING SUB-DOMAIN MEAN SCORES

	Number of Items	School Mean	State Mean
Literary	55	2.2	2.3
Informational	40	2.0	2.2
Persuasive	25	2.2	2.3
Practic	30	2.3	2.4

0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0

School: (Top) **** The sub-domain data are
State: ◆ (Bottom)

SUB-DOMAIN (This page)

The Sub-Domain report listed above displays the school/district and state mean f
There is a separate page for Reading, Mathematics, Science, Social Studies, Arts
items contributing to each school/district and state mean includes both multiple
have been transformed from the 0 to 1 (p-value) scale to the open-response item
weighted 1/3 and open-response 2/3 to reflect the instructional importance of th
school/district and state) that are consistent with the same weighting used in a
school/district mean for each sub-domain ONLY be compared to its respective state
scores. Item means across sub-domains have not been equated or "linked" and thus
standard error of measurement should be considered when drawing conclusions about differences between a sub-domain mean and the overall state mean. The
graphic shows the school mean represented by a diamond and the standard error of measurement represented by the line extending to either side of the
diamond. (N/A indicates that students were administered too few items for MC and OR to be combined into one mean score. See the following pages for
separate MC and OR results for this sub-domain.)

CORE CONTENT (Next page)

The Core Content Report on the following page provides further de
multiple-choice and open-response questions. The data is provide
domain and section labels are provided on the left-hand side of t
for Assessment, which can be accessed through the Kentucky Departme
of students scoring in each score category (correct and incorrect for multiple-choice and 0, 1, 2, 3, 4 for open-response) and the mean item score is
provided for both the school/district and the state. It is very important that school/district data for each sub-domain/section ONLY be compared to its
respective state data and not "vertically compared to other sub-domain/section item data. The difference between the school/district mean and the state
mean, as well as a measure of standard error, is included to aide the interpretation of such comparisons. Observations are the number of times students
were presented items in a category. For example, 6 students each presented 4 items equals 24 observations.

Run Date: 09/21/2006 Page: 9

Scores range from 0.0 to 4.0.

Explanations of how sub-domains means are computed.

Lower data point represents sub-domain state mean. Upper data point in center of "I" represents sub-domain school or district mean.

Purpose of the rotated "I" shaped bar is to mark the bounds of error around school or district sub-domain means.

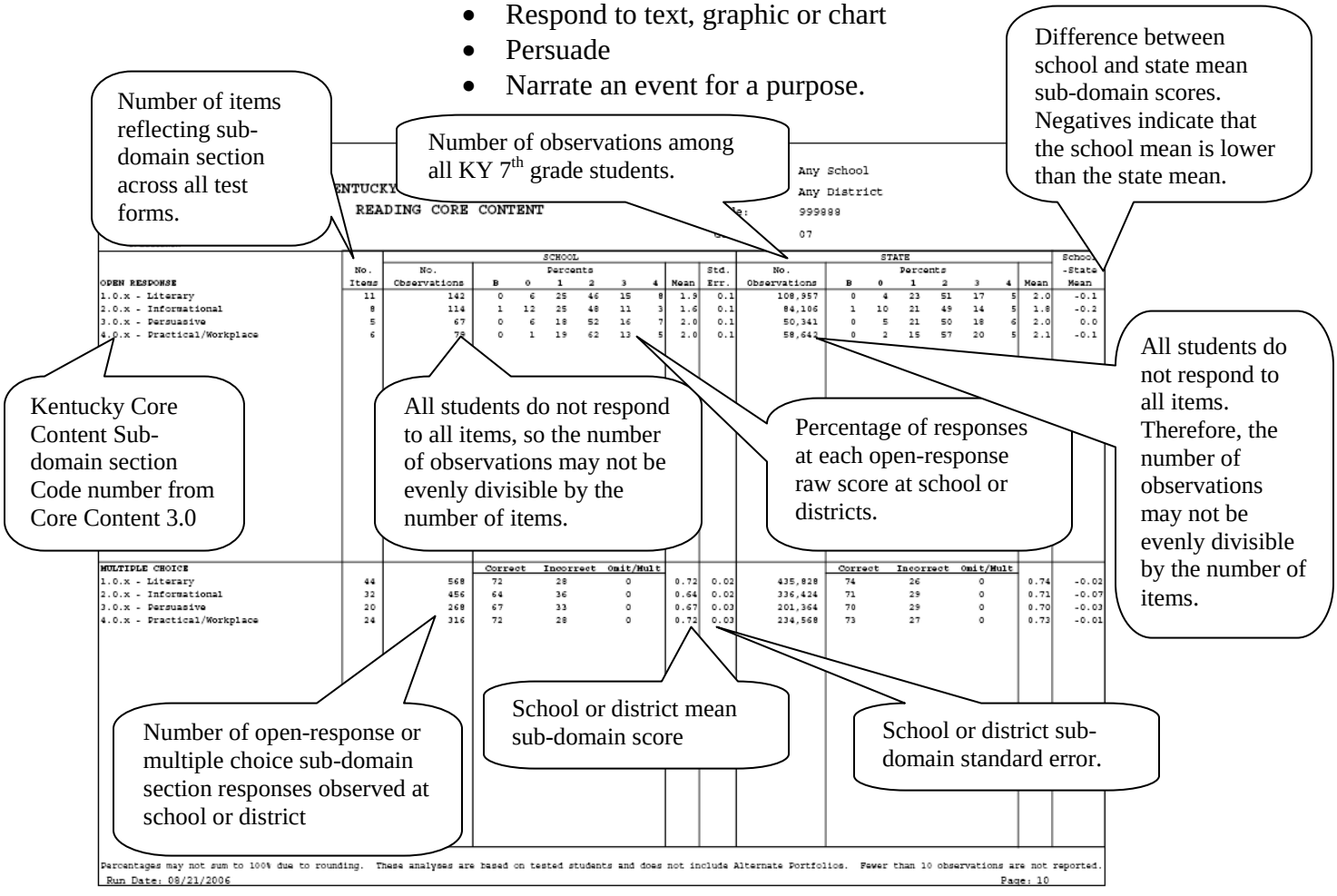
This information concerns the following KPR page.

Core Content

The data is separated into question format for most of the content areas (i.e., multiple choice and open response.) Sub-domain and section labels are provided on the left-hand side of the page. The labels refer to content codes found in the *Core Content for Assessment 3.0*. The difference between the school mean and the state mean, as well as the standard error, is included to aid interpretation of the comparisons.

For On-demand writing, a core content page is located on the same page as the student questionnaire and provides NAPD percentages for the following:

- Respond to text, graphic or chart
- Persuade
- Narrate an event for a purpose.



Test development: Kentucky teachers come together in Content Advisory Committees (CACs) to both write and eventually select items for the Kentucky Core Content Tests. These committees generally include eight to ten teachers per content area per assessed grade level. The content codes in the *Core Content for Assessment 3.0* are applied to specific items during the development process. Kentucky teachers working on the development teams must come to an agreement with respect to the specific elements of the core

content to which an item refers. This helps ensure representative coverage of the core content along with the Kentucky Core Content Test Blueprint.

The Core Content Report shows how students performed on specific areas linked directly to the Core Content.
The main features of the report include:

- The number of test items in the specific core content area.
- The number of times students were presented items in a category (number of observations). Since all students are not presented with all items in each sub-domain, the total number of observations may not be evenly divisible by the number of students. For example, 4 students may have been presented with 4 items (4 x 4 = 16) while 2 others were presented with three each (2 x 3 = 6) for a total of 22 observations.
- The percent of students scoring in each score category (correct and incorrect for multiple choice and B, 0, 1, 2, 3, 4 for open response).
- The mean item score across items within the specific area for both the school/district and the state. The mean score ranges from 0.00 to 1.00 for multiple-choice and from 0.0 to 4.0 for open response.
- In the State section, the difference between the school mean and the state mean is calculated.

Several cautions to consider while using the Core Content pages of the KPR include:

- Some scores come from a limited number of items and a limited number of students.
- Teachers have a full year perspective on students' ability and the content taught. Teachers' professional judgment should always be taken into account when analyzing test scores.
- Use this report in conjunction with other insights and data before making any final decisions about curriculum and instruction.

As indicated above, the Core Content report continues the analysis begun on the Sub-Domain page, further refining it by considering the following:

1) Item format: Data collected using open response-items versus data collected using multiple-choice items;
2) Sub-domain section: Data reflecting each sub-domain of the *Core Content for Assessment* further analyzed by *sub-domain section.*

Like the sub-domain report, the Core Content report presents *raw score* results. Since the multiple-choice and open-response item means presented on this report are based on raw scores, item difficulty and other characteristics have not been taken into account. Therefore, the mean score of one sub-domain cannot be validly compared with that of another sub-domain. Items for review within sub-domains:

The school and state sub-domain item means for open-response and multiple-choice items are slightly different than those presented on the Sub-Domain Report, because the Sub-Domain Report presents results for both item-format types combined.

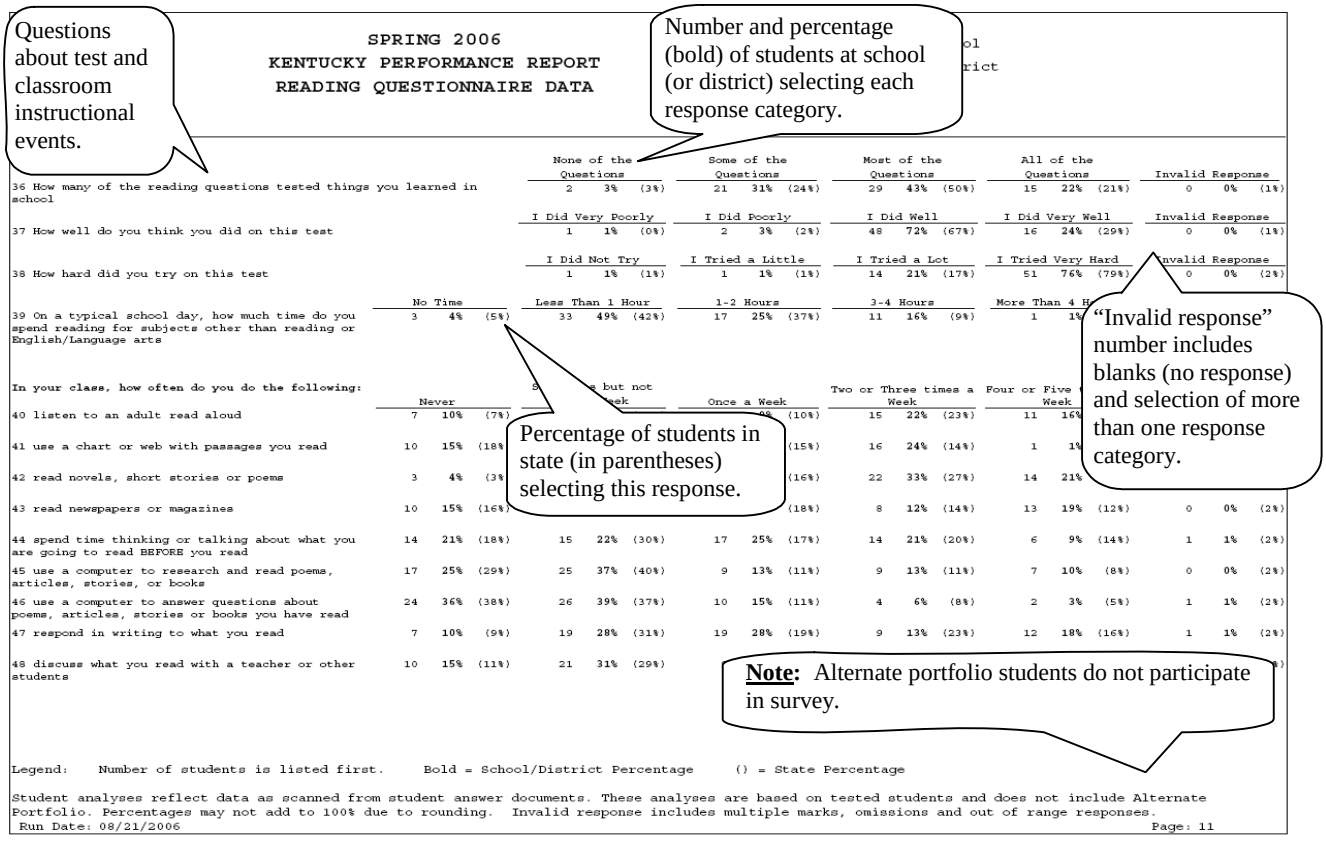
- **The number of test items that reflect the sub-domain section.** Larger numbers of items are associated with stronger validity and higher reliability. Remember that each year items are *sampled* from the content-domain item pools. It is thought that each year's test represents a *balanced coverage* of each sub-domain.
- **The number of student responses.** Larger numbers of student responses (regardless of the number of items) are associated with greater reliability at the sub-domain section level.
- **The frequency of blanks and zeros.** All schools should strive to minimize blank test booklets and nonsense responses on the part of students. The '0' reflects an off-target or irrelevant response.
- **Comparisons between each sub-domain section school/district mean for open-response and multiple-choice items.** When a school's performance is lower than that of the state, a negative sign indicates the difference under School-Minus-State-Mean (far right column).

Questionnaire Data

In addition to the academic questions, students answered a number of questionnaire items. The student questionnaire data is relevant to the specific content area. All questionnaire information is based on the number of students who actually answered each questionnaire item and may not represent all students who took the test. Questionnaire responses can be useful for studying students' perspective about their test performance as well as about instructional practices in the content area.

See the legend at the bottom of the Questionnaire Data page to better understand this report.

- The first value is the number of students who responded to a question by selecting that response category
- The second value is **bolded** and gives the percent response for the school.
- The third value, given in parenthesis ( ), is the state percent for each item.
- Responses under the "Invalid Response" column are for students who did not mark an answer, marked an out-of-range response, or marked more than one answer to a questionnaire item.



Questions about test and classroom instructional events.

Number and percentage (bold) of students at school (or district) selecting each response category.

"Invalid response" number includes blanks (no response) and selection of more than one response category.

Percentage of students in state (in parentheses) selecting this response.

Note: Alternate portfolio students do not participate in survey.

SPRING 2006
KENTUCKY PERFORMANCE REPORT
READING QUESTIONNAIRE DATA

	None of the Questions	Some of the Questions	Most of the Questions	All of the Questions	Invalid Response
36 How many of the reading questions tested things you learned in school	2 3% (3%)	21 31% (24%)	29 43% (50%)	15 22% (21%)	0 0% (1%)
	I Did Very Poorly	I Did Poorly	I Did Well	I Did Very Well	Invalid Response
37 How well do you think you did on this test	1 1% (0%)	2 3% (2%)	48 72% (67%)	16 24% (29%)	0 0% (1%)
	I Did Not Try	I Tried a Little	I Tried a Lot	I Tried Very Hard	Invalid Response
38 How hard did you try on this test	1 1% (1%)	1 1% (1%)	14 21% (17%)	51 76% (79%)	0 0% (2%)
	No Time	Less Than 1 Hour	1-2 Hours	3-4 Hours	More Than 4 Hours
39 On a typical school day, how much time do you spend reading for subjects other than reading or English/Language arts	3 4% (5%)	33 49% (42%)	17 25% (37%)	11 16% (9%)	1 1%

In your class, how often do you do the following:	Never	Once a Week	Two or Three times a Week	Four or Five Week	Invalid Response
40 listen to an adult read aloud	7 10% (7%)	28 (10%)	15 22% (23%)	11 16%	
41 use a chart or web with passages you read	10 15% (18%	(15%)	16 24% (14%)	1 1%	
42 read novels, short stories or poems	3 4% (3%	(16%)	22 33% (27%)	14 21%	
43 read newspapers or magazines	10 15% (16%)	(18%)	8 12% (14%)	13 19% (12%)	0 0% (2%)
44 spend time thinking or talking about what you are going to read BEFORE you read	14 21% (18%)	17 25% (17%)	14 21% (20%)	6 9% (14%)	1 1% (2%)
45 use a computer to research and read poems, articles, stories, or books	17 25% (29%)	9 13% (11%)	9 13% (11%)	7 10% (8%)	0 0% (2%)
46 use a computer to answer questions about poems, articles, stories or books you have read	24 36% (38%)	10 15% (11%)	4 6% (8%)	2 3% (5%)	1 1% (2%)
47 respond in writing to what you read	7 10% (9%)	19 28% (31%)	19 28% (19%)	12 18% (16%)	1 1% (2%)
48 discuss what you read with a teacher or other students	10 15% (11%)	21 31% (29%)			

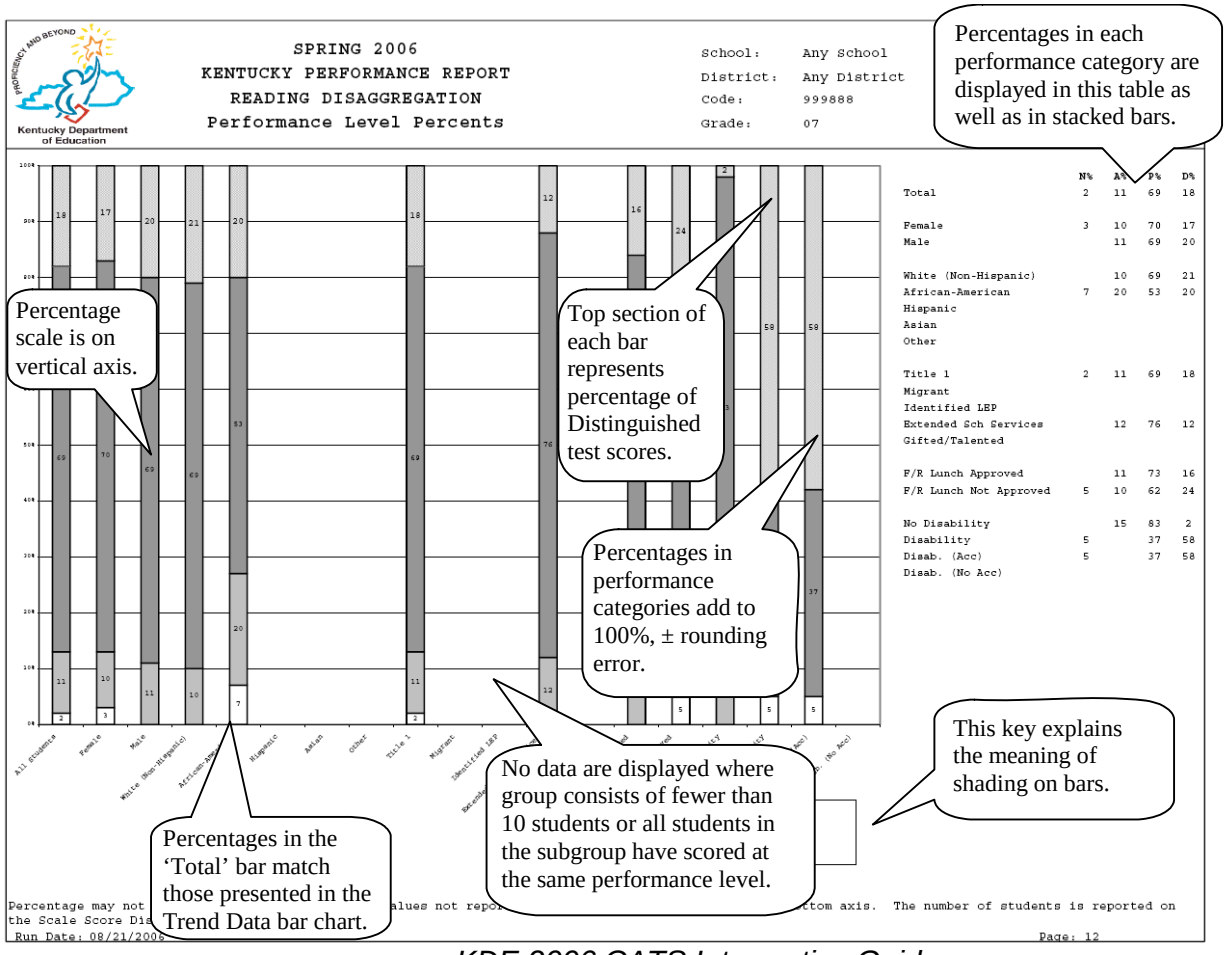
Legend: Number of students is listed first. Bold = School/District Percentage () = State Percentage

Student analyses reflect data as scanned from student answer documents. These analyses are based on tested students and does not include Alternate Portfolio. Percentages may not add to 100% due to rounding. Invalid response includes multiple marks, omissions and out of range responses.
Run Date: 08/21/2006 Page: 11

Disaggregation, Performance Level Percents – Content Area

The Disaggregation, Performance Level Percents reports for each content area including on-demand writing and the writing portfolio, provide stacked bar graphs presenting a side-by-side comparison of the percentage of students achieving Distinguished, Proficient, Apprentice and Novice for student groups. A table displaying the data is provided to the right of the graph. KCCT data are disaggregated based upon these groups:

- Gender (Female & Male)
- Ethnicity (White, African-American, Hispanic, Asian, Other)
- Title I (program participation)
- Migrant (program participation)
- Limited English Proficiency (program participation)
- Extended School Service (program participation)
- Gifted and Talented (program participation)
- Free or Reduced Lunch Approved (price of lunch reduced)
- Free or Reduced Lunch Non-Approved (price not reduced)
- Vocational Education (3 credits)
- Vocational Education (enrolled)
- No Disability (students without disabilities)
- Disability (students with disabilities)
- Disability (accommodations)
- Disability (no accommodations)



	N%	A%	P%	D%
Total	2	11	69	18
Female	3	10	70	17
Male		11	69	20
White (Non-Hispanic)		10	69	21
African-American	7	20	53	20
Hispanic				
Asian				
Other				
Title 1	2	11	69	18
Migrant				
Identified LEP				
Extended Sch Services		12	76	12
Gifted/Talented				
F/R Lunch Approved		11	73	16
F/R Lunch Not Approved	5	10	62	24
No Disability		15	83	2
Disability	5		37	58
Disab. (Acc)	5		37	58
Disab. (No Acc)				

Title I reports throughout the KPR:

- School-wide Title I programs include the performance of all students.
- Targeted Assistance programs include only the performance of the students who participate in the Title I program
- The district report includes all students who participate in either a school-wide or targeted assistance Title I program in any school in the district.

Cautionary Notes:

- The accuracy of disaggregated results depends on the accuracy of entries in student test booklets.
- When **No data** disaggregation results appear in the KPR:
  (1) fewer than 10 students comprise the demographic group; OR
  (2) all students in the subgroup scored at the same performance level.

The graphs produced for each content area provide a powerful representation of how each student group is performing on the assessment compared to other student groups. If large differences exist, especially with respect to the percentage of Novice students, the differences are clearly visible upon inspection of the graphs. As such, this series of stacked bar charts may be useful for communicating disaggregation data not only to school personnel, but also to other stakeholder groups, including parents and business leaders.

The Title I disaggregation information has characteristics unique to the Title I program. If a school participates in a school-wide Title I program, the disaggregation of student performance is for all students in the school. If a school participates in a Title I Targeted Assistance program, only the students participating in this program are part of the disaggregation data. The district report disaggregates data for all students who participate in either a school-wide or targeted assistance Title I program in any school in the district.

Two cautionary notes should be kept in mind when reviewing disaggregation data for schools:

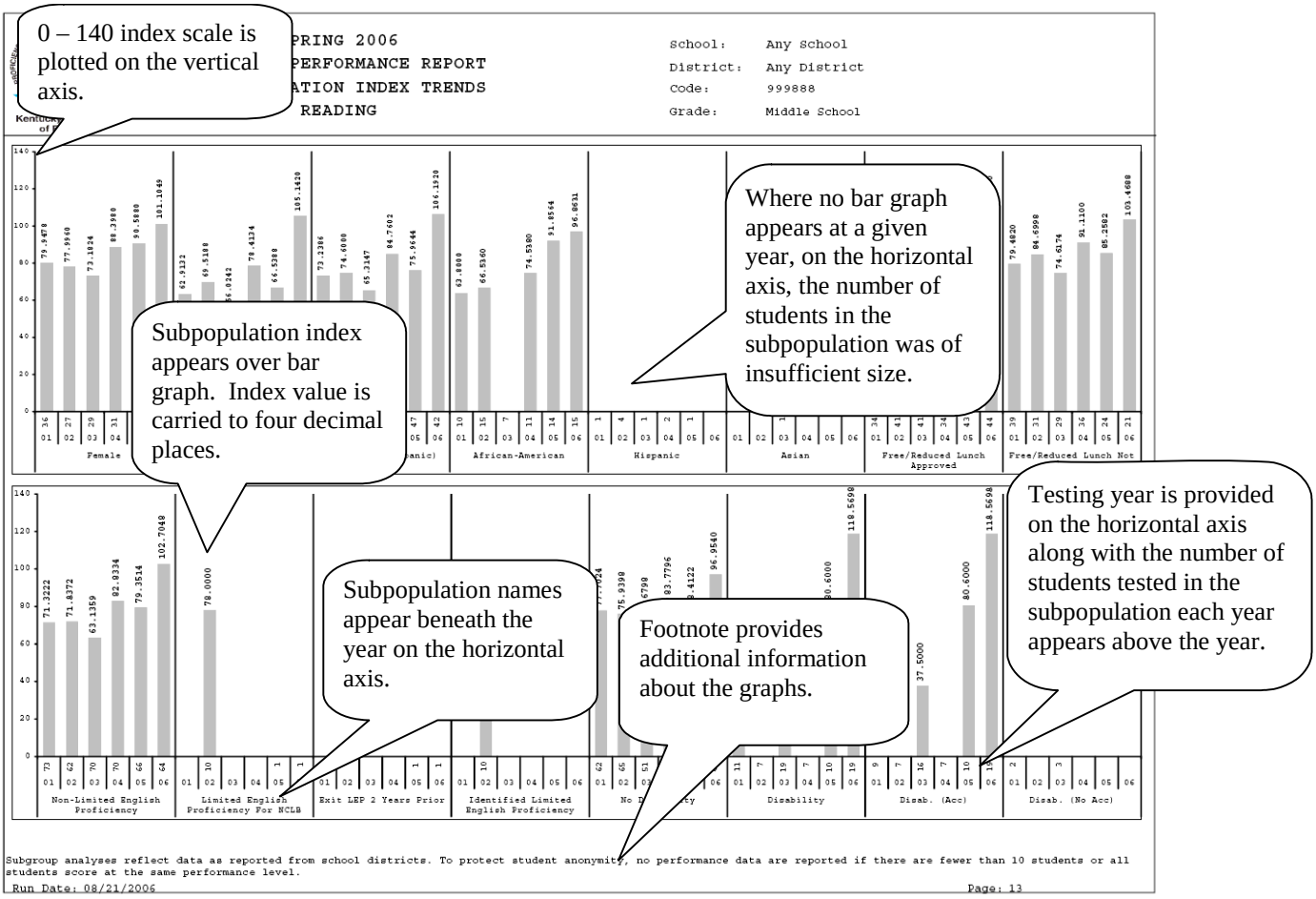
1) The accuracy of the disaggregated data is dependent on how schools filled in this information on the Student Test Booklets and

2) If fewer than ten students were reported in a school or district for a category, or more than ten students scored in a category, but all the students scored at the same performance level, then no disaggregated data is provided to ensure the privacy of individual students.

With these cautions in mind, data disaggregation information can be helpful to schools and districts in evaluating student performance in relation to special educational programs, e.g., Title I, Extended School Services (ESS). This information can also be used in consolidated planning to address issues relevant to equity across diverse student groups.

Disaggregation Index Trends

This one-page report presents content area index comparisons/trends for multiple years, *within* the student subpopulations listed previously in Table 2 on pages 19 and 20 of this Guide. Content Disaggregation Index Trends pages provide valuable information for collecting information on subpopulations using content indices.



Mean Scale Score/Standard Deviation

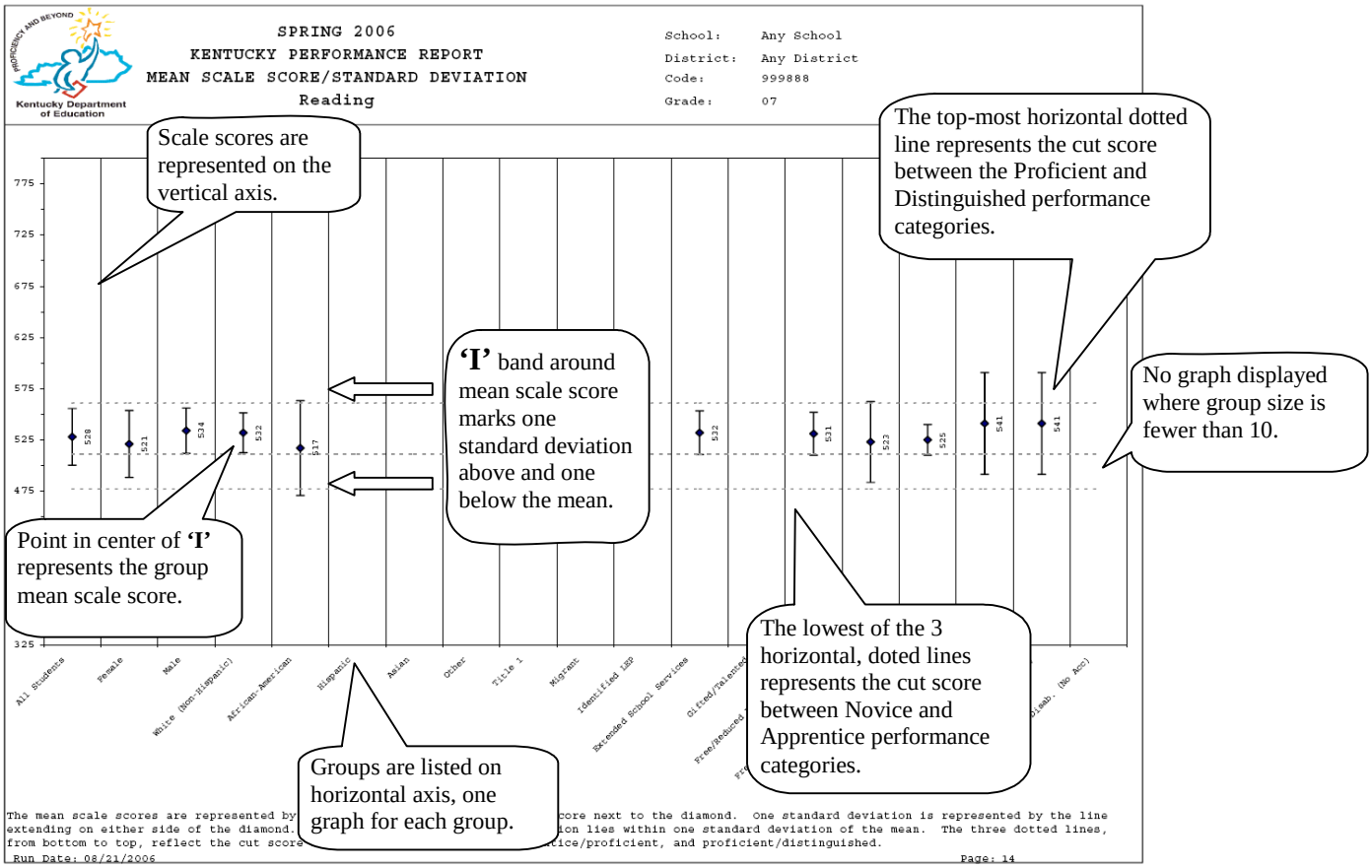
Scale score means and their standard deviations are displayed graphically for subpopulations. One page of descriptive statistics is provided for each content area except Writing. The graphics illustrating standard deviation should not be compared to the graphics in the NCLB report that illustrate confidence intervals.

There is no mean scale-score/standard deviation page for writing, because writing scores are not converted to scale scores.

Basic descriptive statistics usually involve a measure of central tendency (e.g., mean, median or mode) and a measure of dispersion (e.g., standard deviation or variance). The scale score arithmetic mean and standard deviation are given for the same student groups reported on other pages of the KPR. More specifically, a dot representing the student-group scale-score mean is plotted on the vertical axis for each student group (e.g., females, males). Surrounding each dot or scale-score mean is an interval that represents one standard deviation below the mean and one standard deviation above the mean, or approximately 68% of students in the group. This representation of scale score means and standard deviations provides a visual summary of the distribution of scores for each student group, side-by-side. If useful, one can actually visualize, or superimpose, a bell shaped curve over each

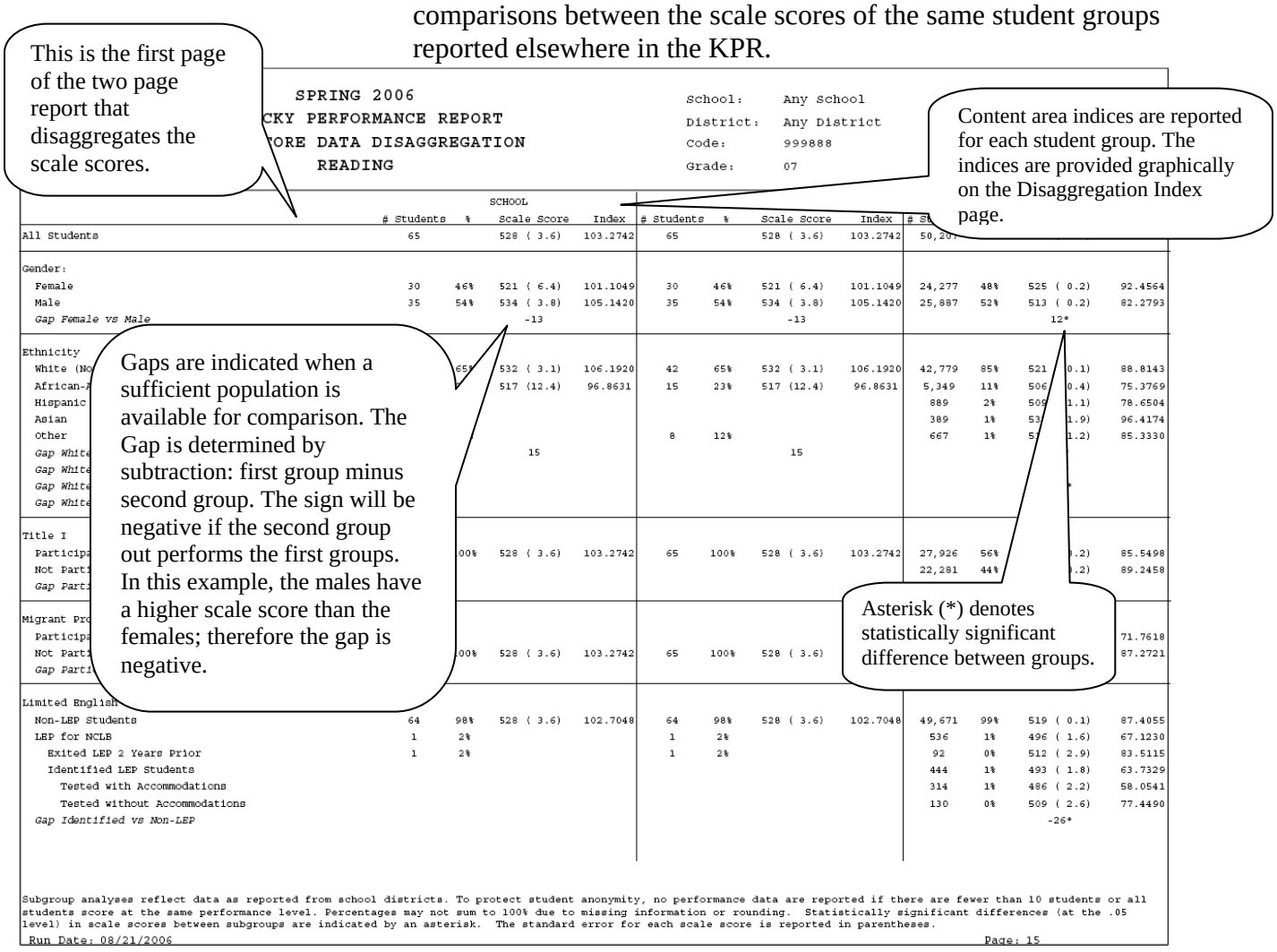
graphed dot and interval, thus taking notice that the graphed values do represent student distributions of scale scores.

On the vertical axis, each of the dotted horizontal lines is located at a scale-score point that represents a performance- standard cut point. One "reference" line is drawn across the page for the Novice/Apprentice cut point; a second line is for the Apprentice/Proficient cut point, and another line is for the Proficient/Distinguished cut point.



Scale Score Data Disaggregation

The Scale Score Data Disaggregation is the last page of the reports for each content area. Scale score comparisons are provided for subpopulations. A standard error accompanies each scale score. In addition, differences between the scale scores for certain student groups (e.g., male vs. female, White vs. African-American) are calculated and a test of statistical significance is provided for each comparison. These pages of the KPR provide important comparisons between the scale scores of the same student groups reported elsewhere in the KPR.



This is the first page of the two page report that disaggregates the scale scores.

Content area indices are reported for each student group. The indices are provided graphically on the Disaggregation Index page.

Gaps are indicated when a sufficient population is available for comparison. The Gap is determined by subtraction: first group minus second group. The sign will be negative if the second group out performs the first groups. In this example, the males have a higher scale score than the females; therefore the gap is negative.

Asterisk (*) denotes statistically significant difference between groups.

SPRING 2006
CKY PERFORMANCE REPORT
ORE DATA DISAGGREGATION
READING

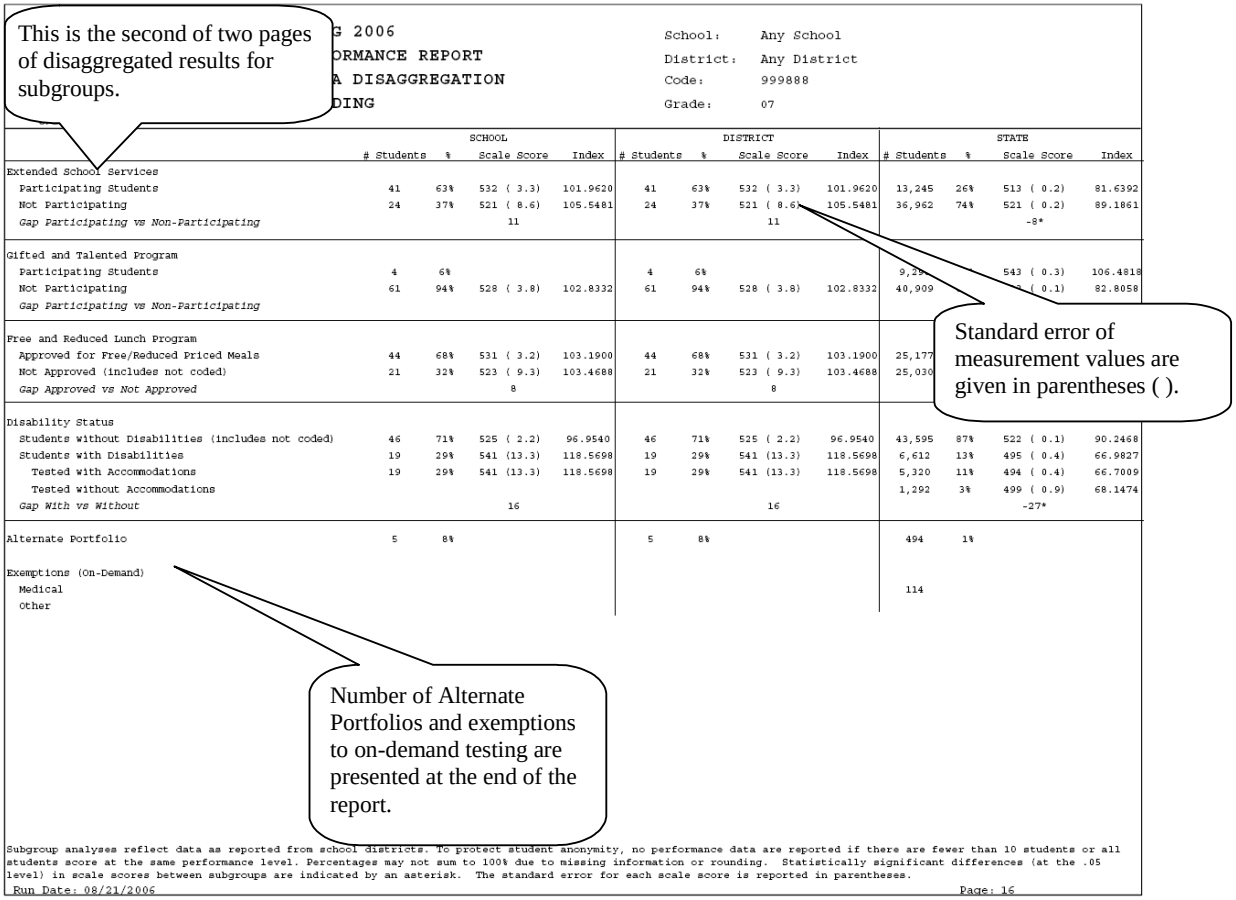
School: Any School
District: Any District
Code: 999888
Grade: 07

	SCHOOL											
	# Students	%	Scale Score	Index	# Students	%	Scale Score	Index	# St			
All Students	65		528 (3.6)	103.2742	65		528 (3.6)	103.2742	50,20			
Gender:												
Female	30	46%	521 (6.4)	101.1049	30	46%	521 (6.4)	101.1049	24,277	48%	525 (0.2)	92.4564
Male	35	54%	534 (3.8)	105.1420	35	54%	534 (3.8)	105.1420	25,887	52%	513 (0.2)	82.2793
Gap Female vs Male			-13				-13				12*	
Ethnicity												
White (No	65		532 (3.1)	106.1920	42	65%	532 (3.1)	106.1920	42,779	85%	521 (0.1)	88.8143
African-A			517 (12.4)	96.8631	15	23%	517 (12.4)	96.8631	5,349	11%	506 (0.4)	75.3769
Hispanic									889	2%	509 (1.1)	78.6504
Asian									389	1%	53 (1.9)	96.4174
Other					8	12%			667	1%	51 (1.2)	85.3330
Gap White			15				15					
Gap White												
Gap White											*	
Gap White												
Title I												
Participa		00%	528 (3.6)	103.2742	65	100%	528 (3.6)	103.2742	27,926	56%	.2)	85.5498
Not Parti									22,281	44%	.2)	89.2458
Gap Parti												
Migrant Pro												
Participa												71.7618
Not Parti		00%	528 (3.6)	103.2742	65	100%	528 (3.6)					87.2721
Gap Parti												
Limited English												
Non-LEP Students	64	98%	528 (3.6)	102.7048	64	98%	528 (3.6)	102.7048	49,671	99%	519 (0.1)	87.4055
LEP for NCLB	1	2%			1	2%			536	1%	496 (1.6)	67.1230
Exited LEP 2 Years Prior	1	2%			1	2%			92	0%	512 (2.9)	83.5115
Identified LEP Students									444	1%	493 (1.8)	63.7329
Tested with Accommodations									314	1%	486 (2.2)	58.0541
Tested without Accommodations									130	0%	509 (2.6)	77.4490
Gap Identified vs Non-LEP											-26*	

Subgroup analyses reflect data as reported from school districts. To protect student anonymity, no performance data are reported if there are fewer than 10 students or all students score at the same performance level. Percentages may not sum to 100% due to missing information or rounding. Statistically significant differences (at the .05 level) in scale scores between subgroups are indicated by an asterisk. The standard error for each scale score is reported in parentheses.

Run Date: 08/21/2006 Page: 15

Mean content area indices are also reported for each student group. Index means are rounded to four decimal places and can be interpreted the same way as content area indices provided on previous pages of the KPR. The student group index means are on the 0 to 140 Academic Index scale. While caution should always be used when interpreting data based upon small numbers of students, the student subgroup content area indices can give an indication of where students groups are scoring relative to the state goal of 100.



This is the second of two pages of disaggregated results for subgroups.

G 2006
ORMANCE REPORT
A DISAGGREGATION
DING

School: Any School
District: Any District
Code: 999888
Grade: 07

	SCHOOL				DISTRICT				STATE			
	# Students	%	Scale Score	Index	# Students	%	Scale Score	Index	# Students	%	Scale Score	Index
Extended School Services												
Participating Students	41	63%	532 (3.3)	101.9620	41	63%	532 (3.3)	101.9620	13,245	26%	513 (0.2)	81.6392
Not Participating	24	37%	521 (8.6)	105.5481	24	37%	521 (8.6)	105.5481	36,962	74%	521 (0.2)	89.1861
Gap Participating vs Non-Participating			11				11				-8*	
Gifted and Talented Program												
Participating Students	4	6%			4	6%			9,29		543 (0.3)	106.4818
Not Participating	61	94%	528 (3.8)	102.8332	61	94%	528 (3.8)	102.8332	40,909		(0.1)	82.8058
Gap Participating vs Non-Participating												
Free and Reduced Lunch Program												
Approved for Free/Reduced Priced Meals	44	68%	531 (3.2)	103.1900	44	68%	531 (3.2)	103.1900	25,177			
Not Approved (includes not coded)	21	32%	523 (9.3)	103.4688	21	32%	523 (9.3)	103.4688	25,030			
Gap Approved vs Not Approved			8				8					
Disability Status												
Students without Disabilities (includes not coded)	46	71%	525 (2.2)	96.9540	46	71%	525 (2.2)	96.9540	43,595	87%	522 (0.1)	90.2468
Students with Disabilities	19	29%	541 (13.3)	118.5698	19	29%	541 (13.3)	118.5698	6,612	13%	495 (0.4)	66.9827
Tested with Accommodations	19	29%	541 (13.3)	118.5698	19	29%	541 (13.3)	118.5698	5,320	11%	494 (0.4)	66.7009
Tested without Accommodations									1,292	3%	499 (0.9)	68.1474
Gap With vs Without			16				16				-27*	
Alternate Portfolio	5	8%			5	8%			494	1%		
Exemptions (On-Demand)												
Medical									114			
Other												

Standard error of measurement values are given in parentheses ( ).

Number of Alternate Portfolios and exemptions to on-demand testing are presented at the end of the report.

Subgroup analyses reflect data as reported from school districts. To protect student anonymity, no performance data are reported if there are fewer than 10 students or all students score at the same performance level. Percentages may not sum to 100% due to missing information or rounding. Statistically significant differences (at the .05 level) in scale scores between subgroups are indicated by an asterisk. The standard error for each scale score is reported in parentheses.

Run Date: 08/21/2006 Page: 16

Accompanying each scale-score mean on these data disaggregation pages is a measure of standard error. Standard error values are given in parentheses ( ) next to each mean scale score. These standard error values represent the standard error of the mean for the school and are calculated as:

$$SE_{MEAN} = \frac{\sigma}{\sqrt{N}} \qquad (1)$$

Where:

SE_{MEAN}	is the standard error of the school mean,
σ	is the standard deviation associated with the scale-score mean, and
N	is the number of students who took the content area test for a particular grade.

When interpreting test scores, standard error of measurement should be taken into account.

Using standard error of measurement, if the scale score mean for males in reading is 515 and the SE equals ±5.8, the mean for this group of students (i.e., males) should fall between 509.2 (i.e., 515 -

5.8 = 509.2) and 520.8 (i.e., 515 + 5.8 = 520.8), 68% percent of the time[4].

If the mean scale scores for females and males were 521 and 534, respectively, the Gap reported would be –13 (i.e., 521 – 534 = –13). The negative indicates the first group was out performed by the second group.

The gap between the scale scores for the above student groups is reported below the mean scale-score values. The values reported for each gap includes a test for statistical significance. The following formula for the standard error of the difference between uncorrelated means was used:

$$SEM_{(DIF)} = \sqrt{SE_1^2 + SE_2^2} \qquad (2)$$

Where:

$SEM_{(DIF)}$ is the standard error of the difference between two mean scores,
SE_1 is the standard error of the school mean for one student group (e.g., females), and
SE_2 is the standard error of the school mean for another student group (e.g., males).

Each value for the SEM produced by formula (2) was then multiplied by 1.96, the z score used to give a two-tailed test of statistical significance at the .05 level of significance. Gap values that are statistically significant beyond the .05 level are "flagged" by an asterisk (*). The flagged values, and thus the difference between the two student groups, represent the starting point for further investigation of these differences.

Scale-score gaps cannot be compared across content domains. Keep comparisons within domains.

If there are no gaps that are "flagged" by an asterisk, focus on gaps or differences greater than or equal to 10 scale score points. During the Standard Setting process conducted in 2001, Kentucky teachers discovered that moving a cut-point 10 or more scale score units had possible implications for the grade level, content area Descriptions of Student Performance, and the expectations of students.

If all gap values on these pages of the KPR are less than 10, the next strategy would be to look at gap values relative to each other. Look for the highest gap values obtained for your school then focus on these student groups for further investigation of differences. The state goal is for there to be no gap between the performances of all student groups.

Two cautionary notes should be kept in mind when reviewing disaggregation data for schools:

[4] The SE represents an estimate of the standard deviation for the population of students on which the sample was calculated. 68% of a normal distribution falls within plus or minus one standard deviation of the mean.

1) The accuracy of the disaggregated data is dependent on the accuracy with which schools filled in this information on the Student Test Booklets;
2) If fewer than ten students were reported in a school or district for a category, or more than ten students are scored in a category, but all these students scored at the same performance level (e.g., all were Apprentice), no disaggregated data were provided to ensure the protection of the privacy of individual students.

With these cautions in mind, data disaggregation information can be helpful to schools and districts in evaluating student performance in relation to special educational programs, e.g., Title I, Extended School Services (ESS). This information can also be used in consolidated planning to address issues relevant to equity across diverse student groups.

Norm-Referenced Test (NRT)

This page located behind all the KCCT content area reports and is the first of two pages providing results for the Norm-Referenced Test (NRT) or the TerraNova, form D. The report provides data for the NRT component of your school's accountability classification. State mandated components include the tests for Reading, Language, and Mathematics. The NP reported is for the Total Battery Composite based on these same three tests. The results reported on the NRT page of the KPR reflect only those students for whom a school is held accountable.

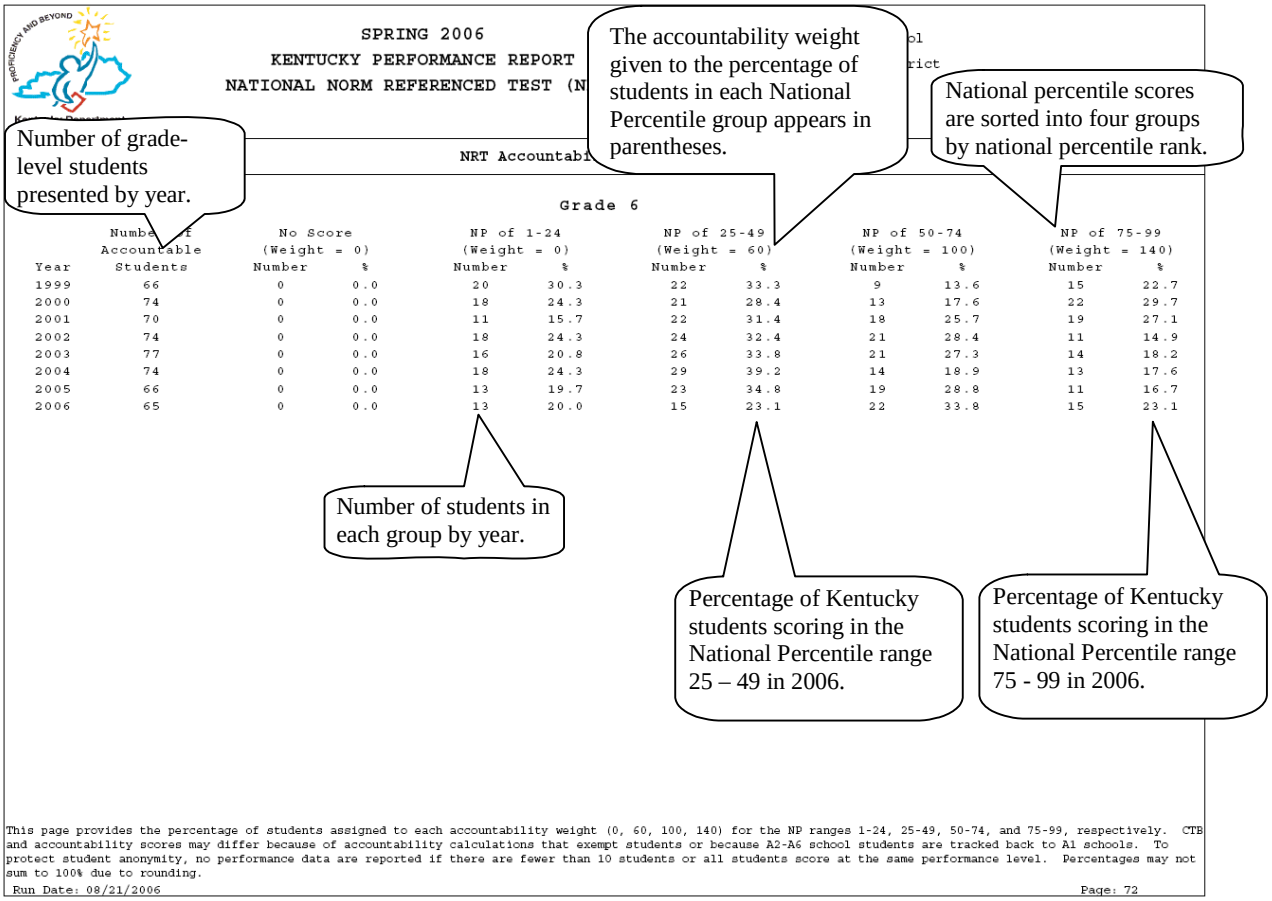
Table 3 Weights with respect to National Percentile Range:

Weight	National Percentile Range
0	1st – 24th
60	25th – 49th
100	50th – 74th
140	75th – 99th

Percentages of students scoring in each of Kentucky's four National Percentile range categories *do not* actually reflect the percentage of students scoring in quartiles. Rather, the values reflect the percentages of students scoring within the NP range categories as defined by the Kentucky Board of Education. **Note:** these range categories are labeled Q1, Q2, Q3, and Q4 on the NRT Data Disaggregation page; however, 'Q' is not equivalent to 'Quartile' in this report.)

The assignment of weights or scores places the NRT on the same 0 to 140 scale as the KCCT content areas. The mean index score (i.e., the score based on the above weighting) for students is

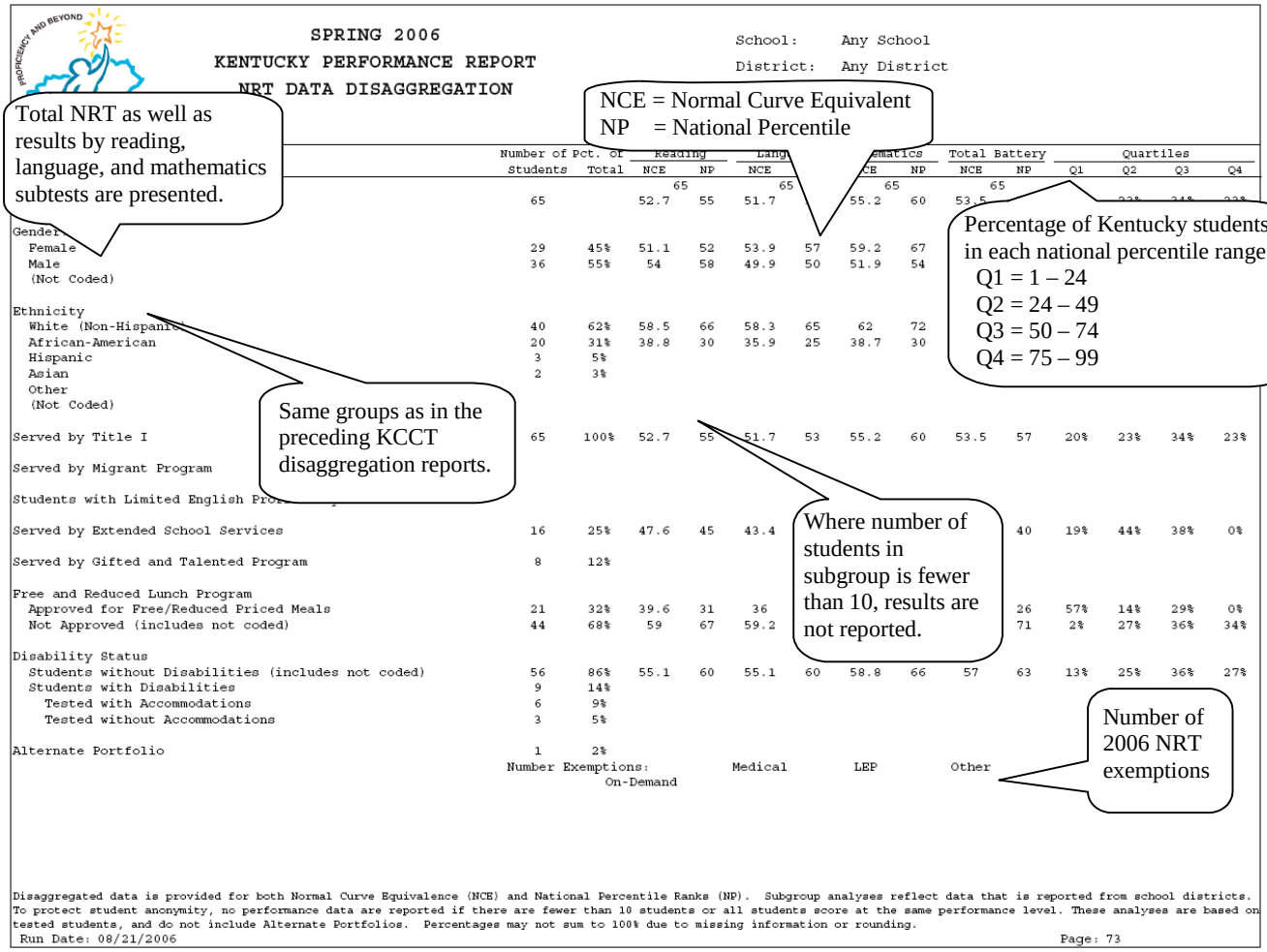
weighted 5% in accountability. The number and percentage of students receiving each score is presented on the National Norm-Referenced Test page for all years from 1999 - 2006.



Year	Number of Accountable Students	No Score (Weight = 0) Number	%	NP of 1-24 (Weight = 0) Number	%	NP of 25-49 (Weight = 60) Number	%	NP of 50-74 (Weight = 100) Number	%	NP of 75-99 (Weight = 140) Number	%
1999	66	0	0.0	20	30.3	22	33.3	9	13.6	15	22.7
2000	74	0	0.0	18	24.3	21	28.4	13	17.6	22	29.7
2001	70	0	0.0	11	15.7	22	31.4	18	25.7	19	27.1
2002	74	0	0.0	18	24.3	24	32.4	21	28.4	11	14.9
2003	77	0	0.0	16	20.8	26	33.8	21	27.3	14	18.2
2004	74	0	0.0	18	24.3	29	39.2	14	18.9	13	17.6
2005	66	0	0.0	13	19.7	23	34.8	19	28.8	11	16.7
2006	65	0	0.0	13	20.0	15	23.1	22	33.8	15	23.1

NRT Data Disaggregation

For the state mandated components of the TerraNova D, comparisons are provided for the same student groups given on other pages of the KPR The percentiles included in the National Percentile range categories are slightly different from the values reported by CTB McGraw-Hill; KPR results *exclude* students exempted from accountability; and KPR results are based on accountability calculation rules from KY regulations, such as the full academic year.



SPRING 2006
KENTUCKY PERFORMANCE REPORT
NRT DATA DISAGGREGATION

School: Any School
District: Any District

Total NRT as well as results by reading, language, and mathematics subtests are presented.

NCE = Normal Curve Equivalent
NP = National Percentile

Percentage of Kentucky students in each national percentile range:
Q1 = 1 – 24
Q2 = 24 – 49
Q3 = 50 – 74
Q4 = 75 – 99

Same groups as in the preceding KCCT disaggregation reports.

Where number of students in subgroup is fewer than 10, results are not reported.

Number of 2006 NRT exemptions

	Number of Students	Pct. of Total	Reading NCE	Reading NP	Lang NCE	Lang NP	Mathematics NCE	Mathematics NP	Total Battery NCE	Total Battery NP	Quartiles Q1	Q2	Q3	Q4
	65		65 52.7	55	65 51.7		65 55.2	60	65 53.5					
Gender														
Female	29	45%	51.1	52	53.9	57	59.2	67						
Male	36	55%	54	58	49.9	50	51.9	54						
(Not Coded)														
Ethnicity														
White (Non-Hispanic)	40	62%	58.5	66	58.3	65	62	72						
African-American	20	31%	38.8	30	35.9	25	38.7	30						
Hispanic	3	5%												
Asian	2	3%												
Other														
(Not Coded)														
Served by Title I	65	100%	52.7	55	51.7	53	55.2	60	53.5	57	20%	23%	34%	23%
Served by Migrant Program														
Students with Limited English Pro														
Served by Extended School Services	16	25%	47.6	45	43.4				40		19%	44%	38%	0%
Served by Gifted and Talented Program	8	12%												
Free and Reduced Lunch Program														
Approved for Free/Reduced Priced Meals	21	32%	39.6	31	36				26		57%	14%	29%	0%
Not Approved (includes not coded)	44	68%	59	67	59.2				71		2%	27%	36%	34%
Disability Status														
Students without Disabilities (includes not coded)	56	86%	55.1	60	55.1	60	58.8	66	57	63	13%	25%	36%	27%
Students with Disabilities	9	14%												
Tested with Accommodations	6	9%												
Tested without Accommodations	3	5%												
Alternate Portfolio	1	2%												

Number Exemptions: On-Demand Medical LEP Other

Disaggregated data is provided for both Normal Curve Equivalence (NCE) and National Percentile Ranks (NP). Subgroup analyses reflect data that is reported from school districts. To protect student anonymity, no performance data are reported if there are fewer than 10 students or all students score at the same performance level. These analyses are based on tested students, and do not include Alternate Portfolios. Percentages may not sum to 100% due to missing information or rounding.

Run Date: 08/21/2006 Page: 73

National Percentile Ranges

Q1	1st – 24th
Q2	25th – 49th
Q3	50th – 74th
Q4	75th – 99th

'Q' in the National Percentile Range labels seen on the KPR NRT pages is not technically equivalent to 'quartile.'

In addition to the number of students tested and the percentage of total students tested, values for Normal Curve Equivalents (NCE) and National Percentiles (NP) are reported. NCEs and NPs are reported for all four scores (i.e., Reading, Language, Mathematics and Total Battery Composite).

Individual Reports – Explanations

Individual Student Report

The Individual Student Report informs students and parents about individual student performance on the Kentucky Core Content Tests. The main features of the Individual Student Report are the student's performance level (Novice non-performance, Novice medium, Novice high, Apprentice low, Apprentice medium, Apprentice high, Proficient, Distinguished), and Kentucky percentile ranking in each content area.

Test publishers produce national percentiles by testing a large number of students who, when you put them all together, look a lot like the U.S. as a whole. The publisher's sample is 'nationally representative.'

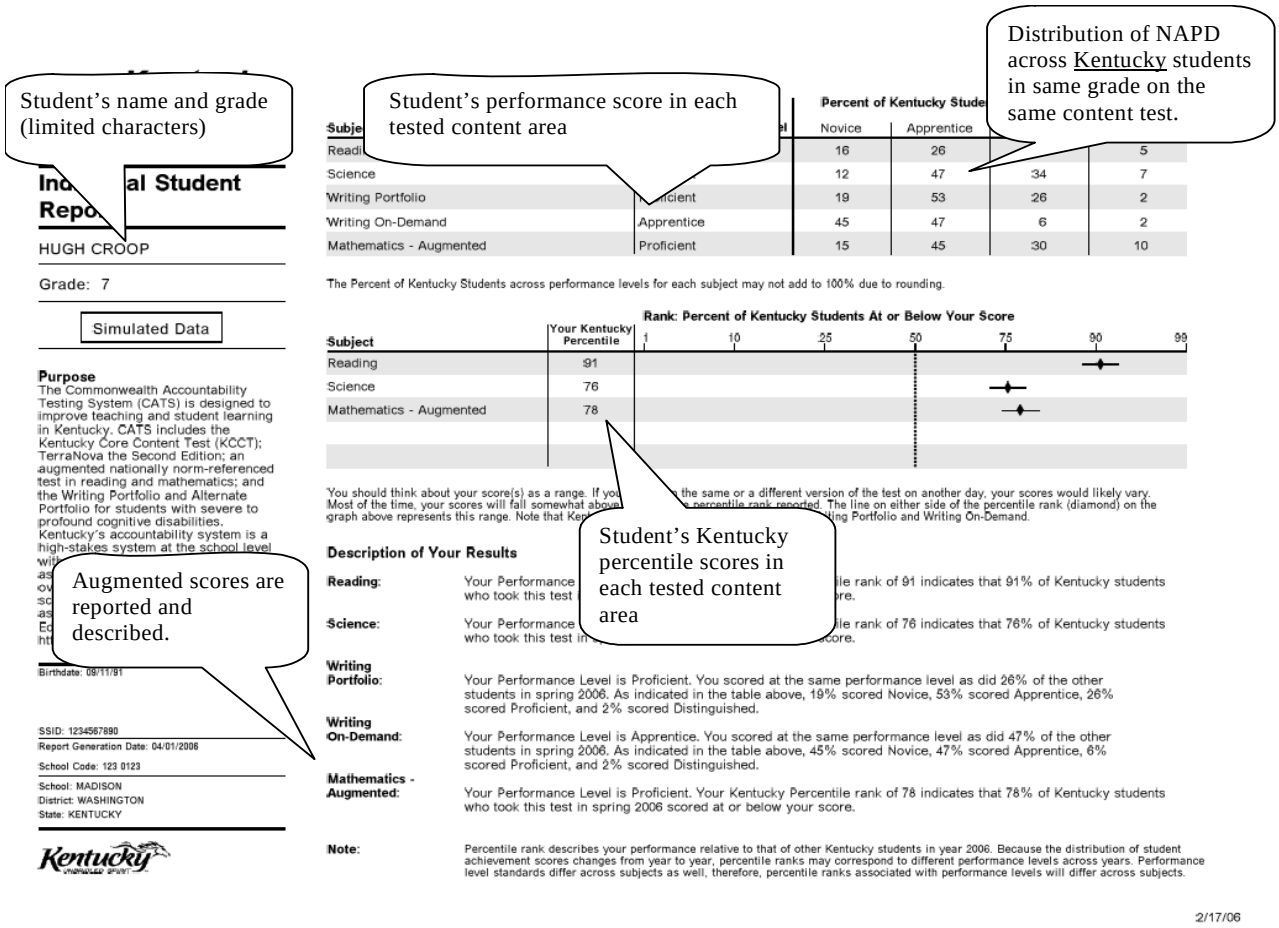
The Kentucky percentile is not the same as a *national percentile*.

The KCCT is not administered outside of Kentucky, since it is designed to assess student performance on Kentucky Core Content.

Student answers to open-response questions were evaluated on a scale of 0-4, with higher scores associated with more complete and accurate responses. Multiple-choice questions were given a raw score value of 1 for a correct answer and 0 for an incorrect answer. The performance levels and percentiles are based on students' responses to both the open-response and multiple-choice questions. If a student is not tested, no performance level or percentile information is printed on the student report. The Description of Your Results box will be marked "Non-tested" for each content area.

For students taking the same content area test during the 2005-2006 school year, the percentile rank shows where each student ranked in relation to other students throughout Kentucky. The KCCT percentile rank is *not* referenced to a distribution established in a norming year. Therefore, between-year comparisons of percentile ranks cannot be made on KCCT results.

For example, a student's 2005 science percentile rank cannot be compared to another student's 2006 science percentile rank. More important, percentile ranks are *not* related to Kentucky Performance Standards.



It is important that discussions of the KCCT reports with parents include information explaining the performance levels. **Student Performance Standards Descriptions** by grade level and content area can be found on KDE's website at http://www.education.ky.gov.

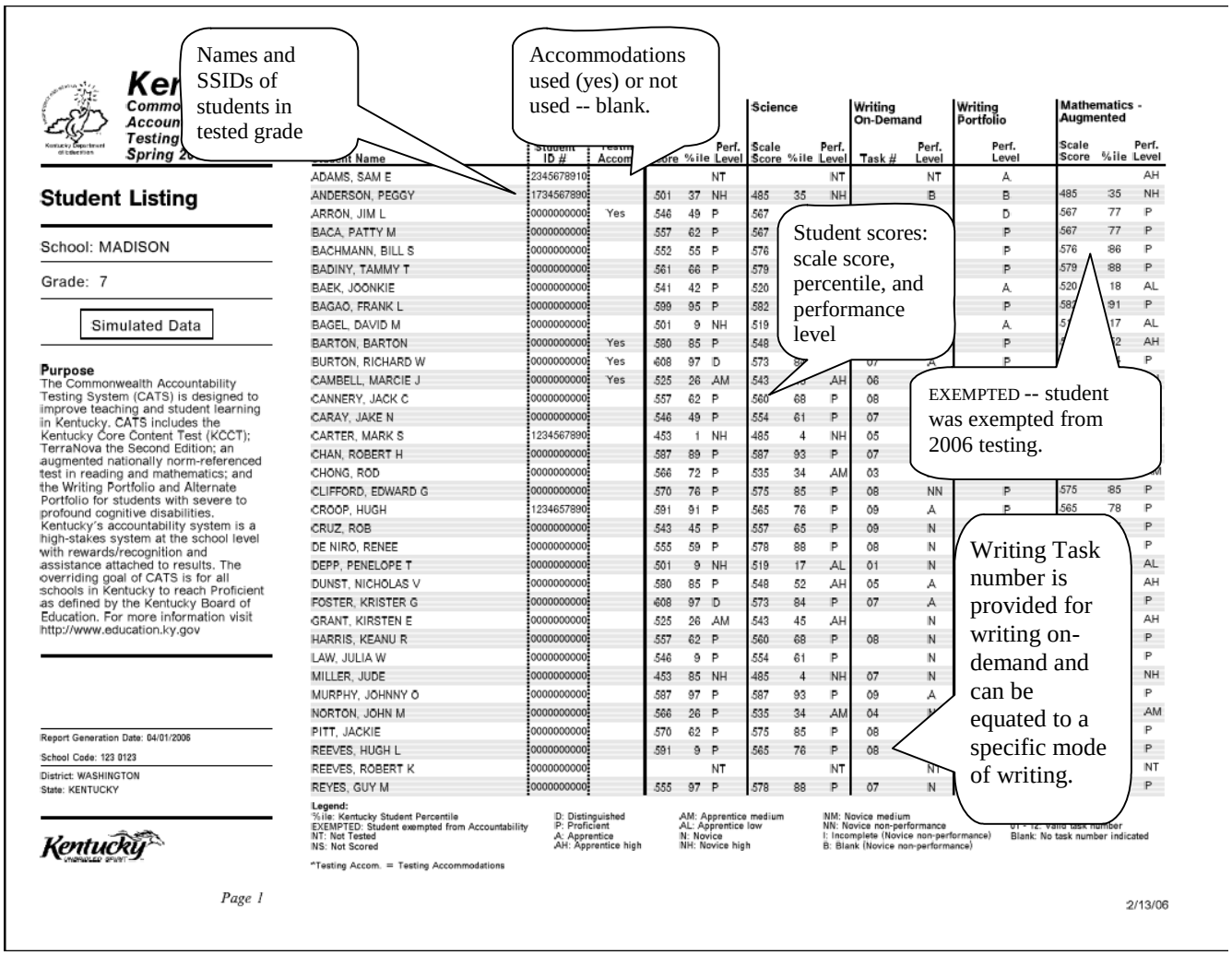
In addition to this resource, a brief document, *CATS 2006 Information Sheet: Basic Information About Your Score Reports*, is available at the same website address. This document includes a glossary of basic terms that may be useful when communicating with parents and other stakeholders.

To provide students, parents and schools with a better understanding of the student performed, the text in the Description of Your Results box (just beneath the Score Percentile box) identifies a student's performance as being either Novice non-performance, Novice medium, Novice high or Apprentice low, Apprentice medium, Apprentice high.

Two copies of each individual student report are provided to schools. A copy should be sent by the schools to parents/guardians; the other copy is for school records. For grade 12 students, only single copies (for school records) of the individual student reports have been provided.

Student Listing

The Student Listing report provides all the information in the Individual Student Report in a concise and convenient form. For each student and tested content area (reading, mathematics, science, social studies, arts and humanities, practical living/vocational studies and writing), the report lists the student's name and State Student Identifier (SSID), an indicator of any testing accommodations used by the student as indicated on the Student Test Booklet, as well as the student's scale score, percentile rank and performance level. Scores of students exempted from accountability are not reported. The word "EXEMPTED" is printed in place of scores for these students. Two copies of the student listing are provided, one for schools and one for districts.



Performance Levels

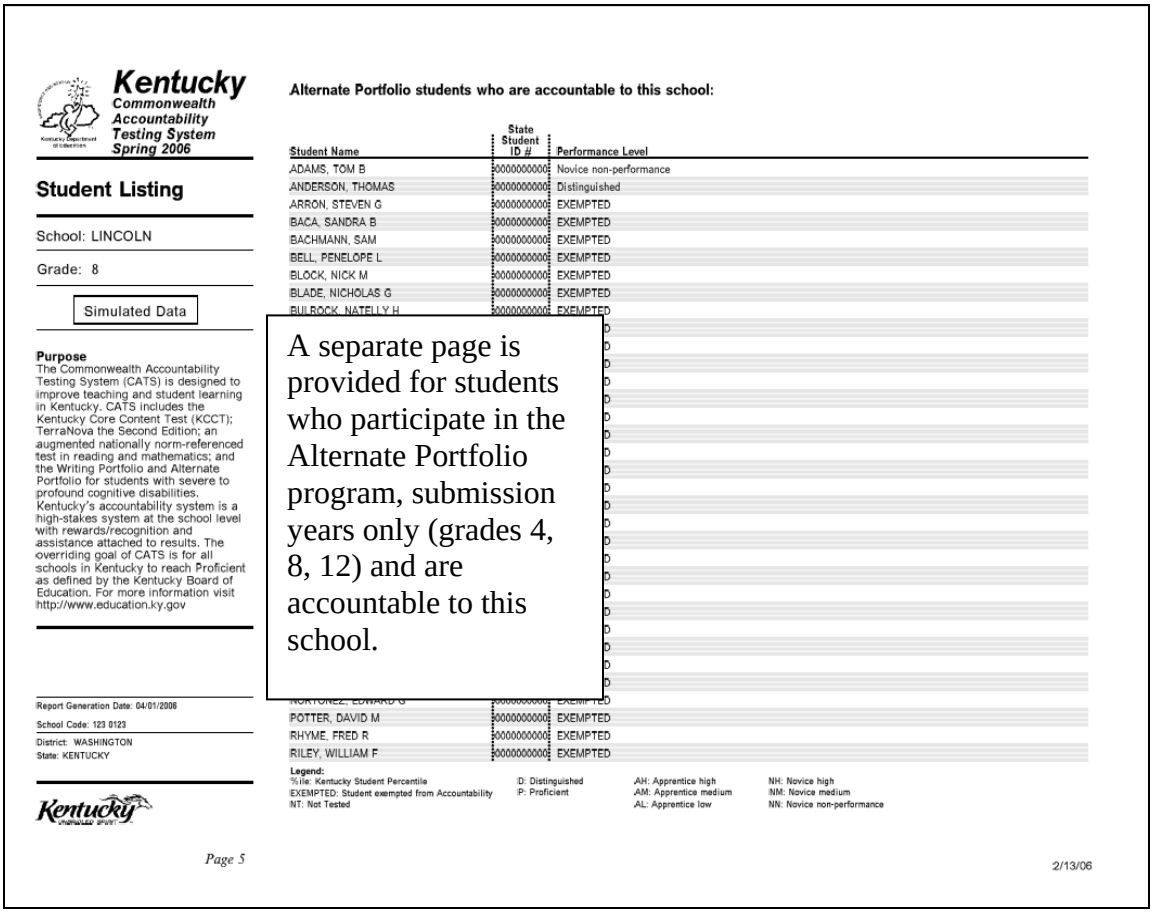
Performance levels are based on the student's responses to the entire test -- open-response *and* multiple-choice questions. The performance levels are abbreviated on the report as follows:

- **D** indicates that the student scored at the Distinguished (highest) level.
- **P** indicates Proficient (the high level of achievement that is the state goal for all students to attain).
- **A-high** indicates high Apprentice.
- **A-med** indicates medium Apprentice.
- **A-low** indicates low Apprentice.
- **N-high** indicates high Novice.
- **N-med** indicates medium Novice.
- **N-non** indicates Non-performance.
- **I** indicates Incomplete (this is for portfolios only). The portfolio submitted by the student was not complete. For

accountability purposes, incomplete scores are treated as non-performance.

- **B** indicates Blank (this is for portfolios and the on-demand writing prompt only). The student did not make any response to the portfolio and/or to the on-demand writing prompt. For accountability purposes, Blank scores are treated as non-performance.
- **NT** indicates Not Tested. The student did not take the Kentucky Core Contest Test and/or Writing Portfolio.
- **NA** indicates Not Applicable.
- * (Asterisk) indicates a school is **not accountable** for the student.

In addition to the performance levels and percentile rankings, the Student Listing describes each student's performance in writing (Grades 4, 7 and 12). This includes a performance-level score for both the on-demand writing prompt and Writing Portfolio. A task number is provided for on-demand and can be equated to a specific mode of writing.



Kentucky
Commonwealth Accountability Testing System
Spring 2006

Student Listing

School: LINCOLN

Grade: 8

Simulated Data

Purpose
The Commonwealth Accountability Testing System (CATS) is designed to improve teaching and student learning in Kentucky. CATS includes the Kentucky Core Content Test (KCCT); TerraNova the Second Edition; an augmented nationally norm-referenced test in reading and mathematics; and the Writing Portfolio and Alternate Portfolio for students with severe to profound cognitive disabilities. Kentucky's accountability system is a high-stakes system at the school level with rewards/recognition and assistance attached to results. The overriding goal of CATS is for all schools in Kentucky to reach Proficient as defined by the Kentucky Board of Education. For more information visit http://www.education.ky.gov

Report Generation Date: 04/01/2006
School Code: 123 0123
District: WASHINGTON
State: KENTUCKY

Alternate Portfolio students who are accountable to this school:

Student Name	State Student ID #	Performance Level
ADAMS, TOM B	0000000000	Novice non-performance
ANDERSON, THOMAS	0000000000	Distinguished
ARRON, STEVEN G	0000000000	EXEMPTED
BACA, SANDRA B	0000000000	EXEMPTED
BACHMANN, SAM	0000000000	EXEMPTED
BELL, PENELOPE L	0000000000	EXEMPTED
BLOCK, NICK M	0000000000	EXEMPTED
BLADE, NICHOLAS G	0000000000	EXEMPTED
BULROCK, NATELLY H	0000000000	EXEMPTED
POTTER, DAVID M	0000000000	EXEMPTED
RHYME, FRED R	0000000000	EXEMPTED
RILEY, WILLIAM F	0000000000	EXEMPTED

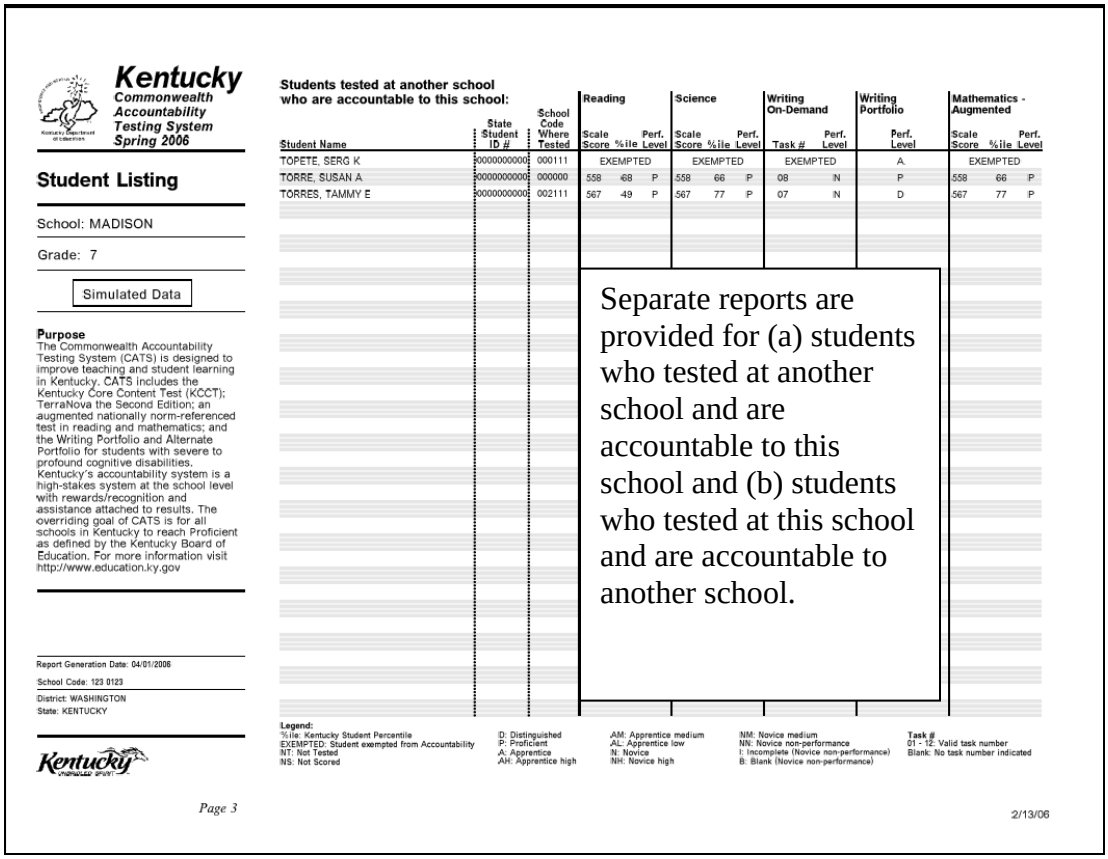
Legend:
%ile: Kentucky Student Percentile
EXEMPTED: Student exempted from Accountability
NT: Not Tested
D: Distinguished
P: Proficient
AH: Apprentice high
AM: Apprentice medium
AL: Apprentice low
NH: Novice high
NM: Novice medium
NN: Novice non-performance

Kentucky

Page 5

2/13/06

A separate page is provided for students who participate in the Alternate Portfolio program, submission years only (grades 4, 8, 12) and are accountable to this school.



Kentucky
Commonwealth Accountability Testing System
Spring 2006

Student Listing

School: MADISON

Grade: 7

Simulated Data

Purpose
The Commonwealth Accountability Testing System (CATS) is designed to improve teaching and student learning in Kentucky. CATS includes the Kentucky Core Content Test (KCCT); TerraNova the Second Edition; an augmented nationally norm-referenced test in reading and mathematics; and the Writing Portfolio and Alternate Portfolio for students with severe to profound cognitive disabilities. Kentucky's accountability system is a high-stakes system at the school level with rewards/recognition and assistance attached to results. The overriding goal of CATS is for all schools in Kentucky to reach Proficient as defined by the Kentucky Board of Education. For more information visit http://www.education.ky.gov

Report Generation Date: 04/01/2006
School Code: 123 0123
District: WASHINGTON
State: KENTUCKY

Kentucky

Page 3

Students tested at another school who are accountable to this school:

Student Name	State Student ID #	School Code Where Tested	Reading Scale Score	Reading %ile	Reading Perf. Level	Science Scale Score	Science %ile	Science Perf. Level	Writing On-Demand Task #	Writing On-Demand Perf. Level	Writing Portfolio Perf. Level	Mathematics - Augmented Scale Score	Mathematics - Augmented %ile	Mathematics - Augmented Perf. Level
TOPETE, SERG K	000000000	000111	EXEMPTED			EXEMPTED			EXEMPTED		A	EXEMPTED		
TORRE, SUSAN A	000000000	000000	558	68	P	558	66	P	08	N	P	558	66	P
TORRES, TAMMY E	000000000	002111	567	49	P	567	77	P	07	N	D	567	77	P

Separate reports are provided for (a) students who tested at another school and are accountable to this school and (b) students who tested at this school and are accountable to another school.

Legend:
%ile: Kentucky Student Percentile
EXEMPTED: Student exempted from Accountability
NT: Not Tested
NS: Not Scored

D: Distinguished
P: Proficient
A: Apprentice
AH: Apprentice high

AM: Apprentice medium
AL: Apprentice low
N: Novice
NH: Novice high

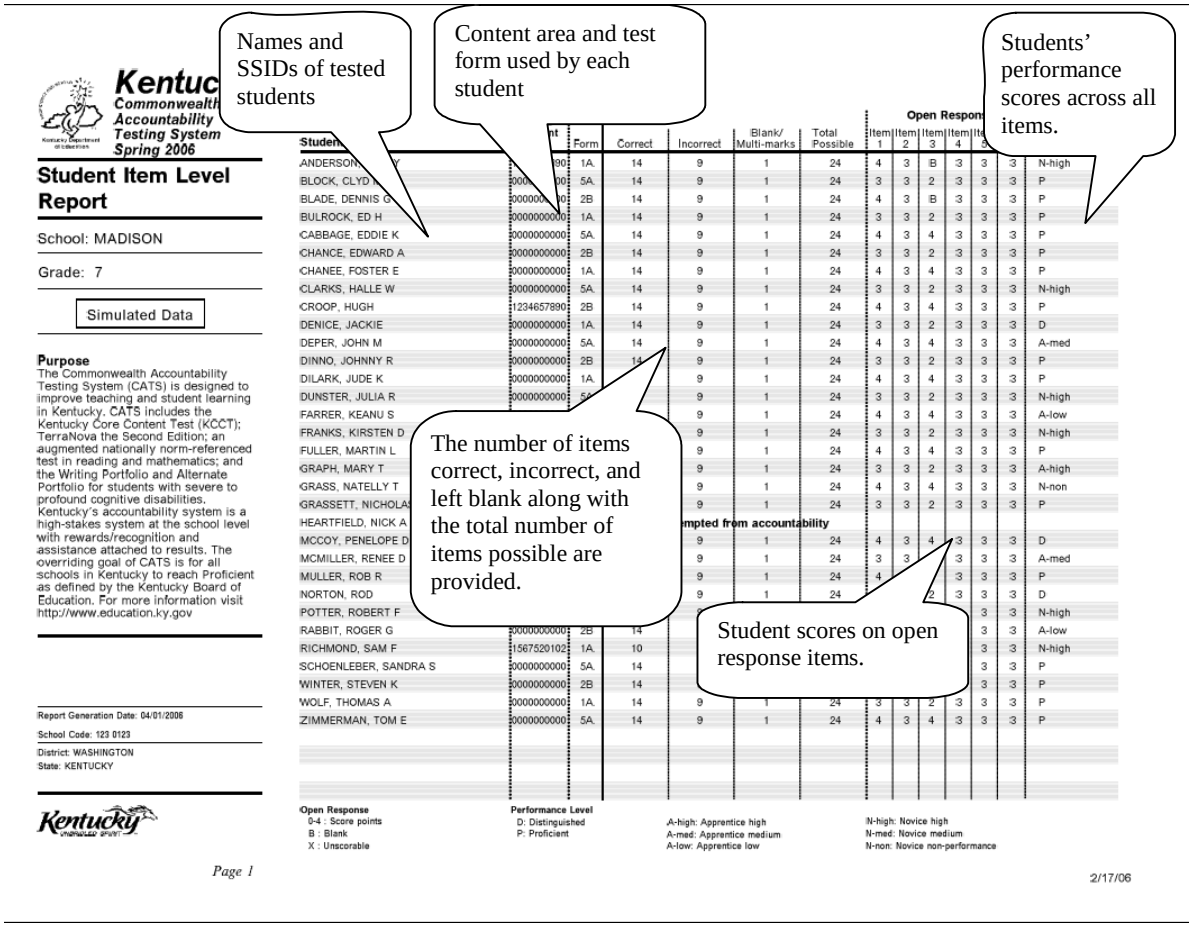
NM: Novice medium
NN: Novice non-performance
I: Incomplete (Novice non-performance)
B: Blank (Novice non-performance)

Task #
01 - 12: Valid task number
Blank: No task number indicated

2/13/06

Item Level Report – Revised for 2006 Reporting

The Item Level Report (distributed in print) gives each student's score for each question on the KCCT. A *single content area* is reported per page to make individual content area analyses easier.



Student	Form	Correct	Incorrect	Blank/ Multi-marks	Total Possible	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	
ANDERSON	1A	14	9	1	24	4	3	B	3	3	3	N-high
BLOCK, CLYD	5A	14	9	1	24	3	3	2	3	3	3	P
BLADE, DENNIS G	2B	14	9	1	24	4	3	B	3	3	3	P
BULROCK, ED H	1A	14	9	1	24	3	3	2	3	3	3	P
CABBAGE, EDDIE K	5A	14	9	1	24	4	3	4	3	3	3	P
CHANCE, EDWARD A	2B	14	9	1	24	3	3	2	3	3	3	P
CHANEE, FOSTER E	1A	14	9	1	24	4	3	4	3	3	3	P
CLARKS, HALLE W	5A	14	9	1	24	3	3	2	3	3	3	N-high
CROOP, HUGH	2B	14	9	1	24	4	3	4	3	3	3	P
DENICE, JACKIE	1A	14	9	1	24	3	3	2	3	3	3	D
DEPER, JOHN M	5A	14	9	1	24	4	3	4	3	3	3	A-med
DINNO, JOHNNY R	2B	14	9	1	24	3	3	2	3	3	3	P
DILARK, JUDE K	1A	14	9	1	24	4	3	4	3	3	3	P
DUNSTER, JULIA R	5A	14	9	1	24	3	3	2	3	3	3	N-high
FARRER, KEANU S	2B	14	9	1	24	4	3	4	3	3	3	A-low
FRANKS, KIRSTEN D	1A	14	9	1	24	3	3	2	3	3	3	N-high
FULLER, MARTIN L	5A	14	9	1	24	4	3	4	3	3	3	P
GRAPH, MARY T	2B	14	9	1	24	3	3	2	3	3	3	A-high
GRASS, NATELLY T	1A	14	9	1	24	4	3	4	3	3	3	N-non
GRASSETT, NICHOLA	5A	14	9	1	24	3	3	2	3	3	3	P
HEARTFIELD, NICK A	mpted from accountability											
MCCOY, PENELOPE D	5A	14	9	1	24	4	3	4	3	3	3	D
MCMILLER, RENEE D	5A	14	9	1	24	3	3		3	3	3	A-med
MULLER, ROB R	5A	14	9	1	24	4			3	3	3	P
NORTON, ROD	5A	14	9	1	24			2	3	3	3	D
POTTER, ROBERT F	5A	14								3	3	N-high
RABBIT, ROGER G	2B	14								3	3	A-low
RICHMOND, SAM F	1A	10								3	3	N-high
SCHOENLEBER, SANDRA S	5A	14								3	3	P
WINTER, STEVEN K	2B	14								3	3	P
WOLF, THOMAS A	1A	14	9	1	24	3	3	2	3	3	3	P
ZIMMERMAN, TOM E	5A	14	9	1	24	4	3	4	3	3	3	P

For multiple choice items, the number of items correct, incorrect and left blank along with the total number of items possible are provided for each student. The results for the open-response items reflect how students scored on the 0-4 scale for each item.

Data Analyses

KRS 160.345 (3) requires each local board of education to establish policy on the form and function of school improvement planning for school councils to follow, which includes how schools in each district will handle the requirements of KRS 158.649 (SB 168), which specifically requires districts and schools to review data and devise a plan for addressing substantive gaps with subpopulations.

Soon after the CATS results are published in the fall of each academic year, school faculty, as well as school and district administrative staff, school-based decision making councils, and the local board of education will need to review assessment results. School staff will want to analyze school assessment results to guide development of their Comprehensive School Improvement Plans (CSIPs).

Broaden the Scope of Your Information to Include:

- Additional Assessment Information
- Qualitative Information

The KPR presents many results as trends (results for multiple years). Table 3 illustrates how KPR data might benefit users who have different purposes during important times. You may identify other users and purposes. In order to broaden the scope of your data analysis consideration needs to be given to other relevant information.

Table 4

Broaden the Scope: Example Time Frame by Purpose and User			
User	**Fall 2006**	**Spring 2007**	**Fall 2007**
	Review 2006 Results:	**Develop and Refine CSIP:**	**Review 2006 Results:**
Faculty	• Consider in conjunction with achievement and other data. • Consider with respect to student groups.	• Set new core content area goals. • Set professional development goals.	• Review 2007 KCCT and NRT results and compare to 2006.
Administrators	• Review across content areas. • Consider other school factors. • Reflect on results in context of total data picture. • Identify successes. • Evaluate programs. • Adjust on-going programs. • Conduct needs assessment.	• Consider in conjunction with results of self-study, review, audit.	
SBDM Council	• Review 2006 school index and test results, comparing to 2005. • Develop action and implementation plans for 2006 – 2007. • Develop School and District Improvement Plans.	• Revise CSIP to include response to achievement gap reduction results. • Finalize CSIP in order to submit budget.	• Review 2007 results and compare to selected 2006 results. • Develop action plan for 2007 – 2008 and compare to previous plan.

Analyzing Student Data:

- Articulate your broad questions.
- What specific questions can be answered with assessment data?
- What specific questions require additional assessment and qualitative information?
- Do you have the additional information needed this year?
- Plan how to collect the information needed for use next year.

Record, integrate, and track your information.

Most questions about CATS academic indices, percentages, and average scale scores can be formulated as follows:

- ***Distances*** to annual/biennial data point, goal, cut score, or state average
- ***Between-group*** difference, trend, or pattern.

When analyzing school or district results, you must identify the needs in terms of content areas and student groups. Once students' needs have been identified take further steps to build a greater understanding of those needs by using additional information such as grade-level achievement test results, classroom performance, analysis of student work, and teacher commentary, and then formulate ways to address them.

Using additional information will yield a more complete picture of school performance. A table of possible questions based on pages in the KPR along with a sample tracking sheet can be found in Appendix B.

Additional Assessment Information by Year

- Core Content school and classroom assessment results
- Student work
- Classroom performance
- ACT, SAT, other standardized test data

Qualitative Information by Year

- Instructional program and resource information (e.g., new science program begun in 2001)
- Professional development
- Instructional time for specific content (science, math)
- Faculty survey results
- Student survey results
- Parent survey results

Kentucky's Accountability Index

Four Steps to Kentucky Accountability Index:

- Raw scores are converted to scale scores;
- Scale scores define performance level scores (NAPDs);
- Performance scores are weighted and combined;
- Content area scores are weighted and combined with the Non-Academic data and NRT.

The CATS goal for every school in the state is Proficiency by 2014 as defined by the Kentucky Board of Education. The goal of Proficiency translates into a school accountability index value of 100. Intermediate targets that will eventually take a school to the goal of 100 are set biennially starting in 2002. As such, there are seven biennia or accountability cycles between 2002 and 2014, as well as recognition points. The major characteristics of the accountability model are that it involves (a) an index, (b) a measure of growth between successive cohorts (groups of students at the same grade, but in different years) (c) criteria that are applicable to the whole school (d) differential weighting of indicators and (e) recognition points.

With respect to the CATS Accountability Model, the previously discussed indicators are combined to create an accountability index. The progression of how this happens begins with simple number-correct raw scores and ends with an accountability index that summarizes a school's progress toward the state's goal of Proficiency. Raw scores give rise to scale scores; scale scores have been related to Novice, Apprentice, Proficient and Distinguished (NAPD) performance levels (via standard setting and cut-scores); NAPDs get weighted numerically and combined within each content area; the content areas are weighted and combined to form a school's academic index; and finally, the academic index is combined with the norm-referenced test (NRT) and non-academic factors to generate the accountability index.

Step 1 - Raw Scores Get Converted to Scale Scores

Raw scores are the simplest scores to understand because they have the most direct connection to the actual questions on a test. Multiple-choice items are either right or wrong – scored 0 or 1.
For open-response questions, raw scores range from 0 to 4 points with increasingly better answers given higher scores. The KCCT adds the correct responses within a content area for each student and provides a numerical raw score that summarizes the student's performance.

For Reading, Mathematics, Science and Social Studies:

6 OR items (each scored 0-4) give a possible raw score range of 0 to 24. This score is doubled.

24 multiple-choice items (each scored 0-1) give a possible raw score range of 0 to 24.

Reading, Mathematics, Science and Social Studies:
The possible raw score range goes from 0 to 72 because open-response items are weighted double in CATS.

Open-response items can equal up to 48 raw score points, since the score is doubled.
Multiple-choice items can equal up to 24 raw score points.
Possible raw score points: 48 + 24 = 72
Raw score range is 0 to 72 for Reading, Mathematics, Science and Social Studies.

Example of student performance for Reading, Mathematics, Science or Social Studies:

- A student scores 17 out of 24 open-response points and 16 out of 24 correct multiple-choice items.
- Open-response points are **weighted double**; therefore, multiply the open-response points by 2. 17 x 2 = **34**.
- 16 correct multiple-choice items are weighted only once; 16 x 1 = **16**.
- **The raw score is 50**, derived by adding the open-response weighted points to the correct multiple-choice items.

For Arts & Humanities and Practical Living/Vocational Studies:

2 OR items (each scored 0-4) give a possible raw score range of 0 to 8. This score is doubled.

8 multiple-choice items (each scored 0-1) give a possible raw score range of 0 to 8.

For Arts & Humanities and Practical Living/Vocational Studies: the possible raw score range goes from 0 to 24 because open-response items are weighted double in CATS.

Open-response items can equal up to 16 raw score points.
Multiple-choice items can equal up to 8 raw score points.
Possible raw score points: 16 + 8 = 24.
Raw score range is 0 to 24 for Arts & Humanities and Practical Studies/ Vocational Studies.

Example of student performance for Arts & Humanities or Practical Living:

- 6 out of 8 open-response points and 7 out of 8 correct multiple-choice items.
- 6 open-response points are **weighted double**; 6 x 2 = **12**.
- 7 correct multiple-choice items is weighted only once: 7 x 1 = **7**.
- **The raw score is 19**; derived by adding the open response weighted points to the correct multiple-choice items.

Multiple Forms of the KCCT

Item Response Theory **(IRT)** statistical procedures transform raw scores into scale scores. This approach considers item difficulty and ensures fairness across test forms.

Multiple forms of the KCCT are necessary to cover the breadth of the Core Content for Assessment at each school level. **I**tem **R**esponse **T**heory (IRT) is used to "level the playing field." IRT is a standard statistical procedure used to transform raw test scores to scale scores.

Raw scores (based on number correct) and corresponding scale scores for four students who each took one of the six forms in a content area of the KCCT are presented.

Table 5

	Raw		**Scale**
Student	**Score**	**Form**	**Score**
1	50	Form 1	586
2	50	Form 6	583
3	38	Form 4	536
4	39	Form 3	536

The underlying scale for the KCCT is not the number-correct raw score, but rather a continuous scale ranging from approximately 325 to 800. The same raw score on a different form can, and usually will, generate a different scale score. Raw scores are converted to scale scores to address the minor differences in difficulty among the six test forms.

There are minor differences in difficulty among the six forms of the KCCT, but ***scale scores produced on different forms are comparable***.

- Students 1 and 2 each obtained a raw score of 50. Student 1 received more scale score points than student 2 (i.e., 586 vs. 583). These two students received the same raw score but different scale scores, because forms have been equated.
- Student 3 and student 4 received the same scale score of 536. Although they received different raw scores, according to the IRT, the students are performing at the same level, regardless of the form.

Step 2 - Scale Scores are Related to Performance Levels

Performance levels are used to describe the quality of student work. The four levels, from lowest to highest, are Novice, Apprentice, Proficient and Distinguished (NAPD.) During the standard setting process, these four performance levels were related to, or mapped onto, the range of scale scores for each grade level and content area test. The first two levels of performance in reading, mathematics, science and social studies were each subdivided into three levels (Novice non-performance, Novice medium, Novice high, Apprentice low, Apprentice medium and Apprentice high) to better represent

student performance and to recognize growth within the performance levels. Scale score ranges can be found in Appendix C of this Guide.

Step 3 - NAPDs Get Weighted Numerically and Combined

Students taking a test in a particular content area are assigned to one of eight performance levels in Reading, Mathematics, Science and Social Studies. The following conversion table is used for transforming NAPDs into a numerical scale that ranges from 0 to 140 for accountability purposes:

Table 6

Performance Level	Weight
Novice Non-performance	0
Novice Medium	13
Novice High	26
Apprentice Low	40
Apprentice Medium	60
Apprentice High	80
Proficient	100
Distinguished	140

Novice and Apprentice levels of performance are *not* divided into three sublevels in writing, arts and humanities and practical living/vocational studies. Novice is assigned a weight of 13 and Apprentice 60.

The content areas of writing, arts and humanities and practical living/vocational studies use the medium category of Novice and Apprentice, 13 and 60, respectively. For these content areas, the Novice and Apprentice levels of performance are *not* subdivided into three levels.

If a school has the following 4th grade reading performance level distribution then the academic index would calculate as follows:

Table 7

Performance Level	Weight	Percentage	Calculation	Weighted Score
Novice Non-Performance	0	0%	0 X 0	0.0000
Novice Medium	13	1%	13 X .01	0.1300
Novice High	26	4%	26 X .04	1.0400
Apprentice Low	40	20%	40 X .20	8.0000
Apprentice Medium	60	25%	60 X .25	15.0000
Apprentice High	80	25%	80 X .25	20.0000
Proficient	100	20%	100 X .20	20.0000
Distinguished	140	5%	140 X .05	7.0000
Content Area Academic Index				**71.1700**

As demonstrated in Table 7, the weights for the NAPDs are multiplied by the percentage (or proportion) of students at each performance level. These weighted percentages are then added together to give the content area index. The resulting content area index for fourth grade reading in this school is 71.1700. The same procedure is used for calculating each content area's "academic" index. If every fourth grade student in the school had scored Proficient on the reading test, the school reading index would have been 100.

Step 4 - Content Areas Get Weighted and Combined With the Non-Academic Data and NRT

Once an academic index has been calculated for all content area, the school's Accountability Index for a particular year can then be determined. The weights used to calculate a school's index vary slightly depending upon whether the school is an elementary, middle or high school. See Appendix D for a visual representation of weights.

APPENDICES

Appendix A
Terms and Explanations

Terms and Explanations

Commonwealth Accountability Testing System (CATS)
Spring 2006 Individual Student Report

Commonwealth Accountability Testing System - The testing program used to test the progress being made by Kentucky schools. The program is made up of five parts:

1) Kentucky Core Content Tests at grades 4, 5, 7, 8, 10, 11 and 12
2) Writing Portfolios at grades 4, 7 and 12
3) Alternate Portfolios at grades 4, 8 and last anticipated year
4) Non-academic index, which includes:
   - Attendance and retention at the elementary level.
   - Attendance, retention and dropout rates at the middle school level.
   - Attendance, retention, dropout rates and successful transition to adult life at the high school level.
5) Norm-Referenced Tests assessing reading, language arts and mathematics at the end of Primary, grades 6 and 9.

The Kentucky Core Content Test, Norm-Referenced Tests and Writing and Alternate Portfolios produce individual student information. Non-academic data components produce data only at the school and district level.

Kentucky Core Content Test (KCCT) – This is the test taken by students in grades 4, 5, 7, 8, 10,11 and 12 in the spring of the school year. At grades 4 and 7, this test contains open-response (essay-like) and multiple-choice questions in reading and science. It also has two writing questions (prompts); students select and write a response to one of those prompts. At grades 5 and 8 the test contains open-response and multiple-choice questions in mathematics, social studies, arts & humanities and practical living/vocational studies. At grade 10 the test contains open-response and multiple-choice questions in reading and practical living/ vocational studies. At grade 11 the test contains open-response and multiple-choice questions in mathematics, science, social studies and arts & humanities. At grade 12 the test has two writing questions (prompts); students select and write a response to one of those prompts.

Augmented Norm-Referenced Test (A/NRT) – This was given in order to meet requirements for the No Child Left Behind Act (NCLB). This is a three-part assessment in which parts one and two, all multiple-choice questions, are purchased nationally norm-referenced test. Part three is an additional set of multiple-choice questions and two open-response questions that require written one-page answers. Students in grades 3-8 were given the A/NRT in reading and/or mathematics. Grades 3 and 6 took an A/NRT in reading and mathematics; Grades 4 and 7 took an A/NRT in mathematics and grades 5 and 8 took an A/NRT in reading.

NAPD Descriptors – On the following page are summaries of the language used to describe Novice, Apprentice, Proficient, and Distinguished. These categories are used in reporting student results within the Commonwealth Accountability Testing System. The Proficient level is the CATS goal for all students. *For more explicit and detailed descriptions it is best to consult the descriptors for each particular grade level and content area.* These descriptors can be found on the Kentucky Department of Education's (KDE) website at: http://www.education.ky.gov.

General Performance Level Descriptors	
Distinguished	■ Student demonstrates an in-depth, extensive, or comprehensive knowledge of content. ■ Student communication is complex, concise, and sophisticated with thorough support, explicit examples, evaluations, and justifications. ■ Student uses and consistently implements a variety of appropriate strategies. ■ Student demonstrates insightful connections and reasoning.
Proficient	■ Student demonstrates broad content knowledge and is able to apply it. ■ Student communication is accurate, clear, and organized with relevant details and evidence. ■ Student uses appropriate strategies to solve problems and make decisions. ■ Student demonstrates effective use of critical thinking skills.
Apprentice	■ Student demonstrates some basic content knowledge and reasoning ability. ■ Student communicates reasonably well but draws weak conclusions or only partially solves or describes. ■ Student attempts appropriate strategies with limited success.
Novice	■ Student demonstrates minimal, limited, underdeveloped, and at times inaccurate content knowledge and reasoning. ■ Student communication is ineffective and lacks detail with no evidence of connections within or between content areas. ■ Student uses strategies that are inappropriate.
Web Link:	http://www.education.ky.gov **For Performance Level Descriptors in each content area of Kentucky's Core Content.**

To communicate a more specific indication of how close a student's work is to the next Performance Level, for reporting purposes in reading, mathematics, science and social studies, the Performance Levels of Novice and Apprentice are subdivided into the following categories:

- Novice Non-performance
- Novice Medium
- Novice High
- Apprentice Low
- Apprentice Medium
- Apprentice High

Performance Levels are derived for the Kentucky Core Content Test by using a weighted sum of the performances on open-response and multiple-choice items and converting it to an appropriate Performance Level. Performance Levels are derived from student Writing Portfolios through a process of training local school staff to apply the scoring standards to the portfolio as a whole in a consistent manner. Alternate Portfolios are scored at the regional level by trained teachers from neighboring districts.

Scoring Guides - These are guides that are used to score student answers. For open-response questions, a different guide is developed for each question. Additional guides are developed for Writing Portfolios and Alternate Portfolios.

Portfolios - These are collections of each student's best work. Writing and Alternate Portfolios are developed over time as part of the accountability program in the following grades:

Writing Portfolios	grades 4, 7 and 12
Alternate Portfolios	grades 4, 8 and last anticipated year

The Alternate Portfolio refers to a measurement process used with students generally thought to have severe disabilities and who are not able to participate within the normal curriculum, even when they are provided all possible accommodations and adaptive devices available. This portfolio program typically involves less than 1% of the total student population.

Kentucky Percentile Rank - This number describes how a student performed on the test compared to other Kentucky students who took the same test in the same year. For example, if a fourth grade student's Kentucky Percentile Rank in reading is 53, then 53% of the Kentucky fourth grade students who took the reading test in the same year scored lower than or equal to the student.

Standard Error of Measurement – The *standard error of measurement* is a standardized statistic used by test developers to indicate the measurement accuracy of an assessment. Standard errors of measurement are used with the Kentucky Core Content Test, as well as many other tests, including tests like the ACT and SAT. One way to think about the standard error of measurement is to think about a test score as being a single score contained within a range of other possible scores. The score range gives a more complete picture of a student's score possibilities. Educators know this, and in fact, specifically ask that score ranges be included with scores.

Score Range *(Graphically displayed around student Kentucky Percentile Ranks)*- On the Individual Student Reports, a student's Kentucky Percentile Rank is graphed as a point surrounded by a bar. The point is the Kentucky Percentile Rank. The bar is the *score range*. The point and the bars represent the student's score plus/minus one *standard error of measurement* (see definition above). The bars around a student's score in each subject show the range of scores the student would likely have received if he/she had taken the same test, or a different version of the test, on another day. It should be noted that all tests contain measurement error for a variety of reasons, including environmental factors (e.g., testing conditions) and student factors (e.g., fatigue, stress). Because of this, any student level score should be interpreted as representing a range of possible scores, or a *score range*.

Appendix B
Important Thoughts and Questions based on Current KPR

Important Thoughts and Questions based on Current KPR		
KPR Page Title *(Description)*	**Distance to Annual/Biennial Data Point, Goal, Cut Score, or State Average**	**Between-Group Difference, Trend, or Pattern**
Accountability Cycle: Growth Chart **Accountability Cycle: Growth Table**	Check your school's text message to see if your Accountability Index reached your goal point. Locate your annual school index and compare it to your previous Annual School Index? Does the current index exceed or fall short of the Previous Index? By how much? How much growth do you need in the coming years to achieve your Biennial Index goal? How much growth do you need in the coming year to progress and stay on target to reach your goal? How close are you to your target novice reduction and dropout points?	
Accountability Trend *(Academic indices; data used in computation of Accountability Index)*		Distinguish content areas in which progress over time is on track, from those in which it is not on track to reach proficiency in 2014. How would you characterize trends in each academic index? Gradual positive increase? Rapid, steady growth? Uneven or No growth? Negative growth? How would you characterize the trend in the NRT Index? Are you satisfied with your non-academic indicator results?

Important Thoughts and Questions based on Current KPR		
KPR Page Title *(Description)*	**Distance to Annual/Biennial Data Point, Goal, Cut Score, or State Average**	**Between-Group Difference, Trend, or Pattern**
Disaggregation Index Trends *(Academic Index)*	Determine the difference each student group's academic index is from 100? Will each group be at or above 100 by 2014 at your current rate of growth? How much index growth per year will be needed for each student group to reach 100 by 2014?	How would you characterize the pattern of bars for each student group: Gradual positive increase? Rapid, steady growth? Uneven? Or No growth? Declining growth?
Content Area Index Trends *(Academic Index Comparisons)*	Determine the difference each content area academic index is from 100? Will each content area's index be at or above 100 by 2014 at your current rate of index growth? How much index growth per year will be needed to reach 100 by 2014?	How would you characterize the pattern of bars within Core Content Areas: Gradual positive increase? Rapid, steady growth? Uneven? Or No growth? Declining growth?
Academic Index Comparisons *(School to district and state)*	Compare to state average. ***State average is not your goal****; however, it does provide a meaningful reference point.* Proficiency is your goal.	Has your position varied compared to the district or state or has it been about the same from year to year? Compare your school's strengths and weaknesses to your district and the state.
Trend Data: Number and Percent *(Kentucky Core Content Performance Level Trends)*		Examine Bar Chart Patterns: What is the direction of the trend within each performance category? Do you see an overall reduction in Novice and Low Apprentice categories? An overall increase in Proficient and Distinguished categories? What about Medium and High Apprentice categories? (Note: writing, PLVS and AH use the medium level of the Novice and Apprentice performance levels.)

Important Thoughts and Questions based on Current KPR		
KPR Page Title *(Description)*	**Distance to Annual/Biennial Data Point, Goal, Cut Score, or State Average**	**Between-Group Difference, Trend, or Pattern**
Sub-Domain *(Sub-Domain Item Mean Scores)*	***The state average is not your goal; however, it*** *does provide a meaningful reference point.* How does your sub-domain means compare to state sub-domain mean scores? Do your means meet, exceed or fall short of the state average?	
Core Content *(Sub-Domain Section Item Scores)*	Determine the difference your sub-domain sections scores are from the state sub-domain section score? Note these sections. Review last year's Core Content report. In which sub-domain sections was your school mean lower than the state mean?	How are open-response scores distributed within sub-domains? How does your school distribution compare to state? How are multiple-choice scores distributed within sub-domains? How does distribution compare to state?
Student Questionnaire	Are there notable differences between the school and state percentages?	Do your results differ between years? How does observed student performance compare to students' perceptions of their performance?
Disaggregation Performance Level Percents *(Bar Charts)*		Which groups have the greatest percentage Novice (white area) and Apprentice (gray)?
Disaggregation Index Trends *(Academic Content Area Indices)*	For each academic content area index, how far is each student group from 100? Will each group be at 100 in 2014 at your current rate of growth? How much index growth per year will be needed for each student group to reach 100 by 2014?	For each academic content area index, how would you characterize the pattern of bars for each student group: Gradual positive increase? Rapid, steady growth? Uneven? Or No growth? Declining growth?

Important Thoughts and Questions based on Current KPR		
KPR Page Title *(Description)*	**Distance to Annual/Biennial Data Point, Goal, Cut Score, or State Average**	**Between-Group Difference, Trend, or Pattern**
Mean Scale Score/SD *(Box & Whiskers)*	Which groups' averages are closest to the cut-score lines? How far (in terms of scale scores) must these groups move to reach the next cut-score line? How far to reach the Proficient line? Which groups show the lowest scale-scores?	Are some students groups at your school omitted from the chart because they number fewer than 10?
Scale Score Data Disaggregation *(Group Differences: School, District, State)*		In which content areas, does your school have statistically significant gaps, i.e., differences followed by asterisks? What size are the gaps in scale-score points at the school, district, and state levels? What are the gaps in terms of index scores? In what content areas are your school's gaps larger or smaller than those at the district or state levels?
NRT Accountability Data by Year *(Composite scores)*	Are NRT scores increasing each year in terms of percentages in the upper two percentile categories?	
NRT Data Disaggregation		What are the implications of NRT scores for reading, language, and math content areas? Are there **large gaps** between the disaggregated groups in terms of normal curve equivalents?

Record, Integrate and Track Your Information

Sample Tracking Sheet
Science Grade 7

Year	State Assessment	School Measures	Interventions	Feedback
2004 – 2005	• KCCT proficiency level percentages overall and by student group • Scale scores by student group	• Weekly Tests • Unit Tests • Parent survey of math and science study at home • Other evaluations (e.g., student projects, presentations)	• Special science program established	• Materials well received by staff • Optional computer reading packages for after-school work considered for purchase
2005 – 2006	• KCCT proficiency level percentages overall and by student group • Scale scores by student group • Within proficiency level, average scale score • TerraNova D subtest scores from previous year	• Same as above	• Special science program continued • Extended class time for all students • Additional small group work with teachers for Novice science students • Professional development for science teachers	• Teachers felt that after-school work was especially effective. Can tutors be identified for more students? • Parents of several students asked for guidance in helping their children at home.
2006 – 2007	• Same as above	• Same as above	• Special science program continued • Extended science class time for all students continued • Additional small group work for Novice readers • Apprentice students paired with Distinguished as peer tutors.	• Parents surveyed in Fall 2006 and Spring 2007

Appendix C
Scale Score Ranges

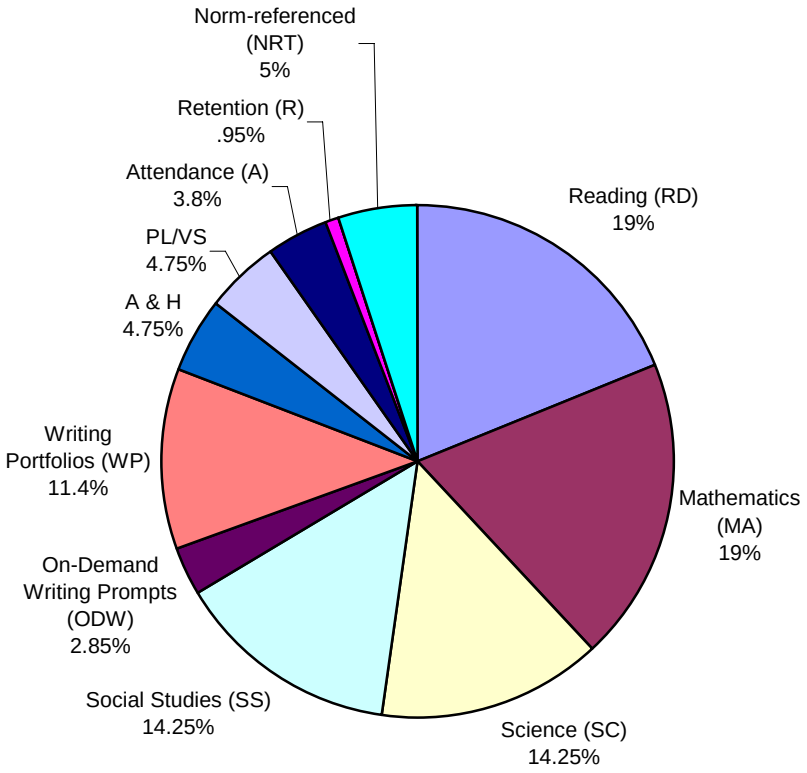
Scale Score Ranges for KCCT Performance Levels:

Content	Performance Level	School Type		
		Elementary	Middle	High
Reading	Novice Non-performance	325	325	325
	Novice Medium	326-451	326-426	326-411
	Novice High	452-514	427-477	412-454
	Apprentice Low	515-523	478-488	455-482
	Apprentice Medium	524-532	489-500	483-509
	Apprentice High	533-541	501-511	510-537
	Proficient	542-601	512-561	538-584
	Distinguished	602-800	562-800	585-800
Mathematics	Novice Non-performance	325	325	325
	Novice Medium	326-472	326-454	326-457
	Novice High	473-546	455-518	458-523
	Apprentice Low	547-556	519-530	524-535
	Apprentice Medium	557-565	531-543	536-546
	Apprentice High	566-575	544-555	547-558
	Proficient	576-619	556-584	559-592
	Distinguished	620-800	585-800	593-800
Science	Novice Non-performance	325	325	325
	Novice Medium	326-450	326-434	326-458
	Novice High	451-512	435-489	459-525
	Apprentice Low	513-526	490-498	526-537
	Apprentice Medium	527-540	499-508	538-550
	Apprentice High	541-554	509-517	551-562
	Proficient	555-588	518-540	563-608
	Distinguished	589-800	541-800	609-800
Social Studies	Novice Non-performance	325	325	325
	Novice Medium	326-458	326-430	326-446
	Novice High	459-524	431-482	447-506
	Apprentice Low	525-531	483-499	507-530
	Apprentice Medium	532-539	500-516	531-553
	Apprentice High	540-546	517-533	554-577
	Proficient	547-586	534-580	578-621
	Distinguished	587-800	581-800	622-800
Arts & Humanities	Novice Non-performance	325	325	325
	Novice	326-503	326-478	326-491
	Apprentice	504-575	479-529	492-554
	Proficient	576-631	530-610	555-598
	Distinguished	632-800	611-800	599-800
Practical Living / Vocational Studies	Novice Non-performance	325	325	325
	Novice	326-460	326-466	326-458
	Apprentice	461-507	467-520	459-506
	Proficient	508-588	521-570	507-578
	Distinguished	589-800	571-800	579-800

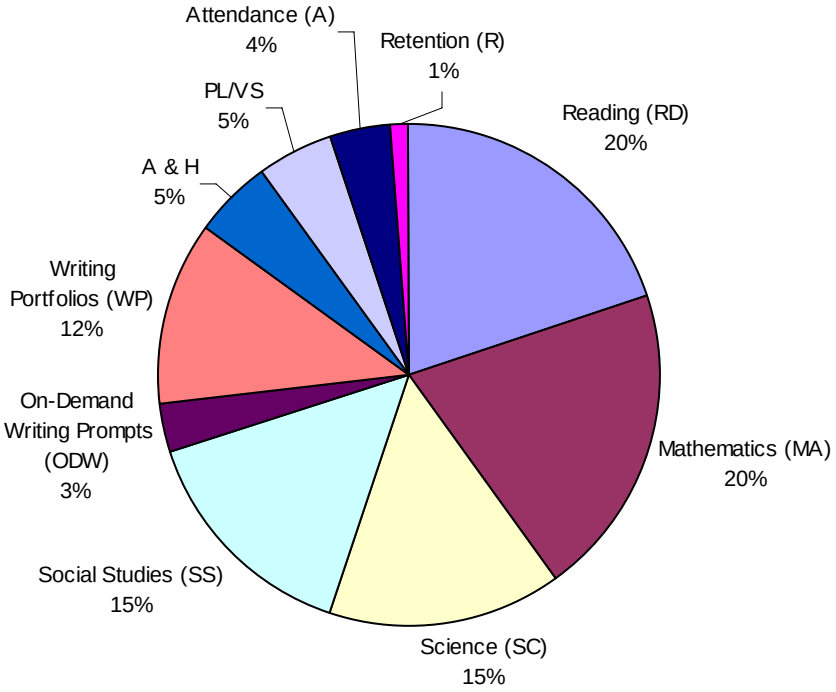
Appendix D
2006 CATS Weights for Elementary, Middle and High Schools

2006 CATS Weights for Elementary Schools

With NRT Grades*



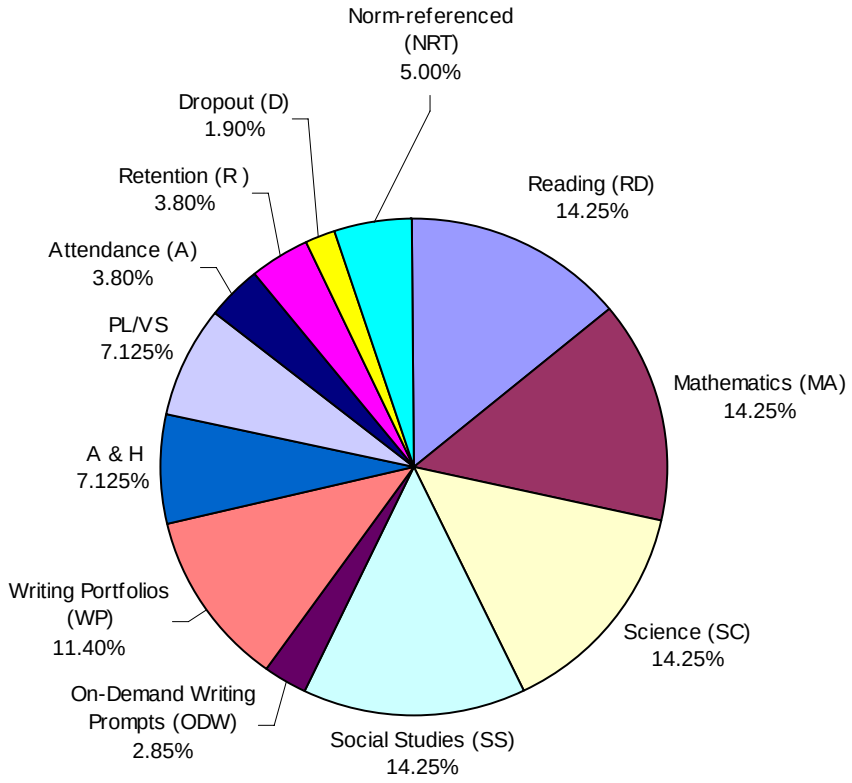
Without NRT Grades*



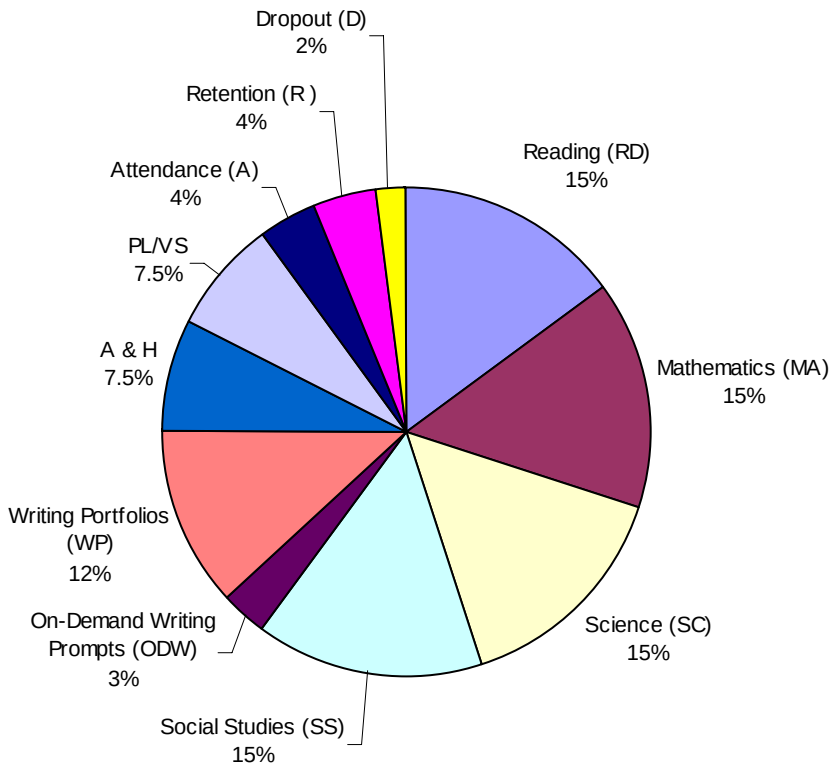
***Schools with NRT grades, without NRT grades or with multiple NRT grades are each calculated differently.**

2006 CATS Weights for Middle Schools

With NRT Grades*



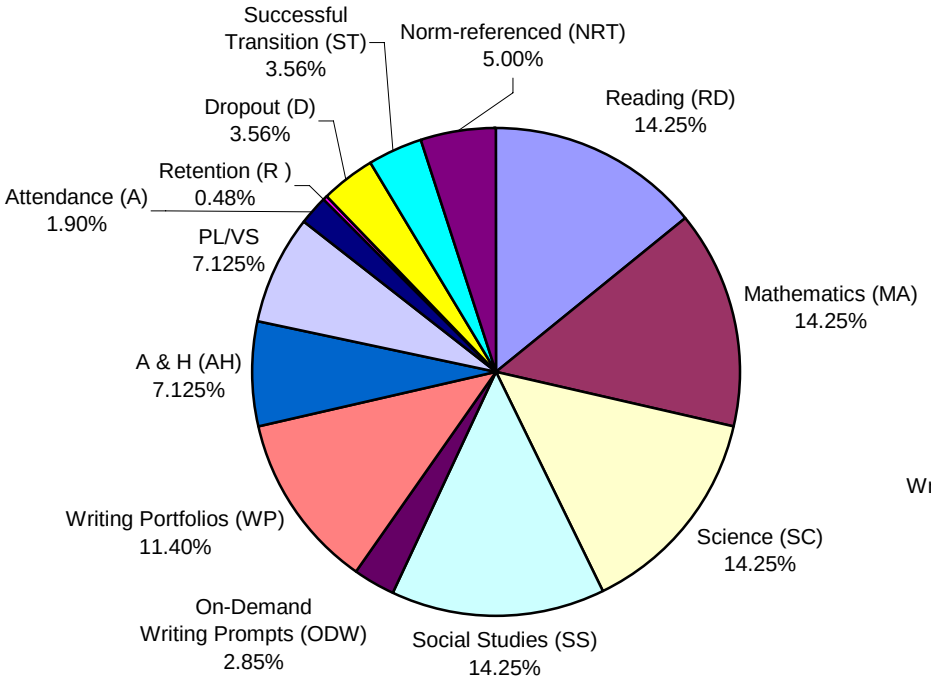
Without NRT Grades*



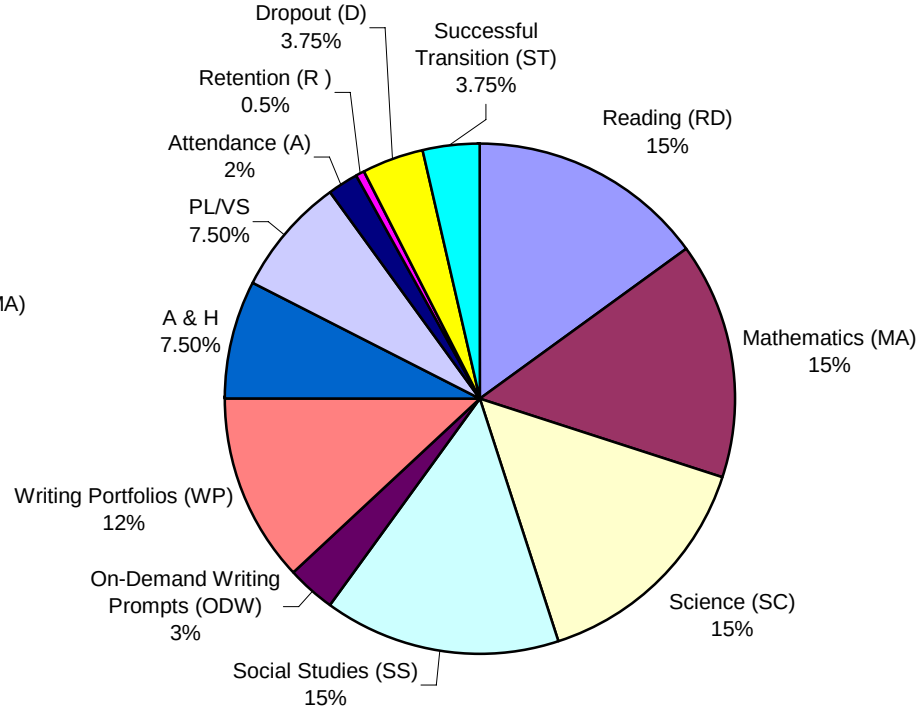
***Schools with NRT grades, without NRT grades or with multiple NRT grades are each calculated differently.**

2006 CATS Weights for High Schools

With NRT Grades*



Without NRT Grades*



***Schools with NRT grades, without NRT grades or with multiple NRT grades are each calculated differently.**